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ABSTRACT

A 1977 Association of Research Libraries (ARL) survey of member institutions concerning book losses and theft detection systems found that more than half of the 90 respondents had installed or were installing electronic security systems (ESS's). This kit on theft detection and prevention in academic libraries contains: (1) planning documents from University of Nebraska, University of California at Berkeley, Northwestern University, and University of British Columbia; (2) implementation procedures from Georgetown University, Temple University, McMaster University, and University of Wisconsin at Madison; (3) systems evaluations from University of Pennsylvania and Temple University; (4) descriptions of user education from University of Massachusetts and University of California at San Diego; (5) samples of user notices from University of Hawaii and University of Michigan; and (6) security procedures and policies from ARL, Georgetown University, University of Hawaii, National Agricultural Library, New York Public Library, McMaster University, University of Pittsburgh, University of Maryland, and University of Virginia. Introductory materials include a concise summary of issues and trends related to theft prevention and detection which focuses on factors in decision-making, strengths and weaknesses of an ESS, alternative methods of theft prevention, and a list of ESS contact people at ARL libraries. (THC)

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Theft Detection and Prevention

Kit 37

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THEFT DETECTION AND PREVENTION IN ACADEMIC LIBRARIES

ISSN 0160 - 3574

Theft and mutilation of materials have always been problems in libraries, but those responsible for maintaining research collections have become increasingly concerned with reducing book loss rates once considered normal, because of today's high replacement costs. Academic libraries are faced with an average replacement cost of $20 per volume, plus processing, which can total many thousands of dollars in a year with an annual book loss rate of 1 - 2 percent of the total collection or 5 - 6 percent of current acquisitions. In June 1977, the Systems and Procedures Exchange Center surveyed ARL members concerning book losses and theft detection systems, and found that over half of the 90 respondents had installed or were installing electronic security systems (ESS's).

FACTORS IN DECISION-MAKING. Installing an electronic security system, which detects unauthorized removal of library materials through normal exits usually by use of a marker or target in library materials and a detection unit at each exit, is a sizable investment ranging from roughly $10,000 for a small collection, to $200,000 plus for large central collections. The number of controlled exits and the number of marked library materials are the largest determiners of costs. Decisions regarding purchase of an ESS are being made in the context of costs, alternative procedures, and impact upon clients, staff and operations. Over half of the responding libraries conducted inventories or book loss studies prior to their decision to install an ESS. In many cases, based upon their loss rates and costs of replacement, libraries reported that an ESS would pay for itself in a few years. Studies conducted after installation of ESS's estimated that book losses are being reduced between 34% to 90%, with a major determiner of success being the percentage of the collection with detection markers. Regarding costs, initial charges for installation, rennovation of the building, markers or targets, staff training, and education of users all must be taken into account, as well as continuing expenses for additional markers and maintenance. Other major decisions involve which type of system--by-pass or full circulating--is most effective in the library. Many research libraries find that the full circulating system, although more expensive, is more suited to their needs, since it requires fewer procedural changes and allows patrons to re-enter and leave a library with previously checked out material.

STRENGTHS AND WEAKNESSES OF AN ESS. Of the 30 libraries which conducted loss studies before and after installation of a system, only two do not report a resulting reduction in book loss rate. One library reports that for every dollar the system cost, the library has received $1.73 in benefits, and concludes that the system will pay for itself in 38 months. Other major reported benefits are improved library operations and client satisfaction. Staff time to locate hard-to-find replacements is reduced. Not as many guards are required, reducing payroll expenses. In addition, staff are reportedly more comfortable with an ESS, because it relieves them of a police officer's role. Most libraries report that the ESS allows faster check-outs, and some indicate that it reduces user frustration caused by not finding needed materials on the shelves.

As with the introduction of any technical system, ESS's cause disruption of routine, additional expense, and demands on staff time during the conversion period. Often, some renovation of the library must be undertaken, and extra staff must be hired to place markers in books. Several libraries report a variety of technical problems during transition. Most complaints center

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around technical problems such as false alarms caused by three-ring binders or other metals, errors in desensitizing, slow maintenance service, erasure of audiotapes, or inadequacy of markers (e.g. they come out too easily or are too visible). A few libraries report concern that the mutilation of materials may be increasing and that users are discovering other ways to circumvent the systems.

ALTERNATIVE METHODS OF THEFT PREVENTION. Over one-fourth of the responding libraries control access to stacks by either subject matter, type of material, or patron status. Most libraries move valuable or rare items to controlled, high security areas and require patrons to present identification, usually proof of university affiliation. Other deterrents, in order of their popularity, include guards on non-essential doors and windows, educational programs and exhibits for users and staff, and identification of high-risk items with deliberately visible markings.

Twenty-five libraries indicate they have a plan for reporting missing rare or expensive items by contacting local book dealers, police, and nearby libraries, or reporting losses in the campus paper or in national journals. Thirty-four libraries have policies to deal with situations where a patron is suspected of stealing or mutilating library property. Most of these involve contacting the local police, either compus or governmental, but many libraries indicate an unwillingness to be involved in apprehension or prosecution. Of the 27 libraries reporting policies for punishment, the parent organization--university or government agency--most often establishes the guidelines. At many institutions, the guilty parties are banned from the library, forced to pay for missing materials, or have letters placed in their university file. The majority of libraries indicate they are more interested in seeing materials returned than in punishing patrons.

TRENDS AND ISSUES. At least one study indicates that material deprivation is the most commonly reported motivation for library thefts. This has led libraries to purchase duplicate copies of high-demand materials and to emphasize the availability of photocopiers in working order, with readily-available change. Uniform circulation and access policies also are proving helpful; the new Guidelines from the Committee on Manuscripts Collections of the Rare Books and Manuscripts Section of the Association of College and Research Libraries deal with access to and reproduction of special materials.

The need to formalize record-keeping regarding book loss information has increased. Standardization of records provides data for comparison with future studies, and enables libraries to make informed choices regarding cost-effective security measures and to monitor the success of these measures. There is some concern that the use of ESS's will create an increase in mutilation, and libraries are attempting to document such incidences to determine the dimensions of this problem.

Libraries are finding it helpful to report losses of materials. The AB Bookman's Weekly recently began a classified column for reporting losses, and the Society of American Archivists recently initiated a national register and other services for lost or stolen archival materials. Libraries also are considering the establishment of stronger procedures concerning apprehension and punishment of offenders. Law enforcement officials often note that thefts which would be considered grand larceny eleswhere are treated as minor offenses in a library setting.

There is some concern that too much emphasis on theft prevention will conflict with the goals of service to users and open access to information. But research libraries report a variety of approaches to solving the book loss problem, and they are selecting cost-effective alternatives which will result in enhanced availability of materials and service to clients.

* * *

The Kit on Theft Detection and Prevention contains five planning documents, four implementation documents, three examples of user education, and eight procedure and policy documents, all from ARL libraries, plus lists of contact persons and additional SPEC materials (111 pages). The Kit is available to ARL members and SPEC subscribers for $7.50 and to all others for $15.00, with prepayment required.

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THEFT DETECTION AND PREVENTION IN ACADEMIC LIBRARIES

KIT 37 - OCTOBER 1977

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PLANNING DOCUMENTS

THEFT DETECTION SYSTEMS DESCRIPTION AND COSTS--by Lisa R. Wilcox, March 1977. Planning and Research Office, University Libraries, University of Nebraska-Lincoln PR77-04

INTRODUCTION

Is a theft detection system justified for Love Library? Based on recent limited inventory data, it appears that the loss rate for Library of Congress (LC) materials alone is at least 1800 volumes each year. At a replacement cost of at least $15 per volume, this translates into $27,000 each year. No estimate is available for Dewey materials and serials.

Security systems could be installed at exit points in Love Library in order to reduce or eliminate theft of library materials. Commercial security control systems all involve placing a sensitive tag or strip in the items that require protection. When an item which has not been properly charged out passes through a sensing field a device emits a sound to alert library staff and the gate through which patrons must exit locks, preventing the patron from leaving. The sensitive tags or strips could be added to all items or to high-loss collections plus a cross-section of all other materials.

No security system will prevent mutilation of items. All systems can be subverted by the determined thief using unusual methods of getting items out of the building or by collusion with library staff.

By projecting the annual dollar loss of materials from Love Library, a basis for justifying a theft detection system is suggested. The available systems are described and costs are presented.

All information in this report is based on literature and quotes supplied by vendors (available in Planning and Research Office) and the survey of vendors and users published in the November, 1976 Library Technology Reports.

LOSS RATE--LOVE LIBRARY

A precise annual loss rate at Love Library is not known. However, using data collected by Circulation it has been estimated for the purposes here that the lowest possible loss rate is 0.7% annually (See Table 1.) Applying this conservative figure to the total Love LC collection, it can be projected that 1,799 items are lost each year. At $15.00 per volume the amount is $26,985. No data are available for estimating the loss rate of serials or Dewey materials.

TYPES OF SYSTEMS DESCRIBED

A. By-Pass

Permanently sensitized targets are affixed to items in a by-pass system. As a person leaves the building he hands library materials to the attendant. The person walks through the sensing device while the attendant checks to see that the item is properly charged out. If the patron is concealing library property an alarm will sound and the gate will lock.

Advantages:

1. Less expensive than a full circulation system
2. No extra procedures (i.e. desensitizing) required to circulate an item.

Disadvantages:

1. Control person required to check all material
2. System can be compromised merely by using a previous date due slip to make the attendant think the item has been checked out.
3. Patron must have all items inspected each time he leaves the building.

B. Full Circulation

In this system the sensitive targets placed in the book are desensitized when the item is charged out. As the patron leaves the building he walks through the

Table 1. Partial Love Library Inventory Data: September, 1976-February, 1977.

Love Library Linear ft. of books (including periodicals)[a]		Missing in Inventory		
LC class #	Feet	Number[b]	Feet[c]	% of collection MIV over 17 mo. period
A	2436	4	.57	.02%
B	2729	274	39.1	1.4
C	344	17	2.4	.7
D	3365	218	31.1	.9
E	1284	113	16.1	1.3
F	1100	62	8.9	.8
G	770	131	18.7	2.4
TOTAL	12,028 feet	819 items	117 feet	1.0%

Loss rate prorated over a 12 month period .7%

a From "Collection Measurement at a Glance" June, 1976. Includes both monographs and periodicals.

b From Circulation Department inventory done September 1976-February 1977. Previous inventory occurred approximately 17 months before this. Inventory included monographs only.

c Volumes converted using 7 volumes per linear foot.

sensing device. If there are improperly charged out items a sound is emitted and the gate through which all patrons must exit locks, preventing the patron from leaving the building.

Advantages:

1. Eliminates the need for a security check at the exit because the item is desensitized at the circulation point.
2. Patron cannot subvert the system by using a date due slip from a previously charged out item (exception is Checkpoint)
3. Certain non-circulating items can have permanently sensitized pieces, preventing accidental circulations. (exceptions are Book Mark, Sentronic).

Disadvantages:

1. Usually more expensive than a bypass system
2. Requires an additional step (i.e. desensitizing) at the circulation point.

LOVE LIBRARY SPECIFICATIONS

For the purpose of estimating costs it is assumed that Love Library would acquire a full circulation system. The basic hardware necessary to initiate a book security system is as follows:

Love South (main entrance)

- 2 circulation units (activate/deactivate)
- 1 detection unit
- 1 entrance gate
- 1 locking exit gate

Love North (auxiliary entrance)

- 1 circulation unit (activate/deactivate)
- 1 detection unit
- 1 entrance gate
- 1 locking exit gate

Total: 3 circulation units

2 detection units

2 entrance gates

2 locking exit gates

In addition the system chosen must comply with fire and safety regulations. The system should not create additional barriers to handicapped persons, i.e. sufficient aisle width, gates instead of turnstiles.

The number of sensitive targets to be ordered depends on decisions about which items in the collection are to be protected. The total collection need not be protected. High risk categories such as expensive texts or art books should be fully sensitized. Selective installation of sensitive targets in other parts of the collection would provide a psychological deterrent to most patrons. It is better to choose a system that uses targets that are not easily detected by the patron if all items are not to be sensitized.

Therefore the costs for any system are:

1. Hardware, plus ongoing yearly maintenance
2. Sensitive pieces, ongoing yearly expense
3. Freight (not included in most estimates)
4. Renovation of building (varies with each system)
5. Installation

COMMERCIAL SECURITY SYSTEMS - DESCRIPTIONS AND COSTS

Book Mark (Library Bureau)

The Book Mark theft detection system detects magnetic fields passing through its sensing device. Library Bureau is licensed by Sentronic to market this system.

In the Book Mark system sensitive pieces are placed in the spine or gutter of an item or on a flat surface. In a full circulation system items are desensitized at the circulation desk. In the by-pass system items are passed around the detection device. A unique feature of Book Mark is the provision of a "perceptor," a device which can magnetically "frisk" a patron for the source of a magnetic field.

Libraries having this system report frequent false alarms, but like Sentronic, items such as umbrellas and notebooks can be desensitized so they will not trigger future alarms.

The estimated cost for a Book Mark system is as follows:

2 console control units	$ 2,050
2 magnetometer and probe sets	3,660
2 cabling and connectors	390
3 activator/deactivators	1,520
2 platform exits	1,820
2 perceptors	58
2 entrance gates	700
2 locking exit gates	1,700
Installation and Freight	2,500
TOTAL	$14,498

Sensitive pieces: $ .09-.12 each

Maintenance: $750/year after 1st year (Figure from LTR)

Checkpoint Mark II

The Checkpoint Mark II theft detection system identifies radio transmission signals stimulated by the action of the detection equipment on the sensitive target. Because Checkpoint uses a radio frequency in its system it is subject to Federal Communication Commission regulation. As of November 1976 Checkpoint was operating its system under a temporary waiver from the FCC.

In the Checkpoint system the sensitive piece, which contains a printed circuit, is affixed to a flat surface of the item. In a full circulation system the sensitive piece must be "detuned" at the circulation desk by placing a shield over the sensitive piece. This prevents the radio signal from being detected. In a bypass system all items are passed around the detection unit.

Because a specific radio frequency is detected there are no false alarms with this system. Users confirm this. But because the radio frequency is never really turned off, but is only shielded, even in a full circulation system an item which is not properly charged out can be taken from the library by placing a previously used "detuning" card in the item.

Checkpoint sent no cost estimates but the following costs are projected based on the LTR survey.

2 detection devices	$ 8,800
2 entrance gates	1,000
2 exit gates	1,000
Installation	200
TOTAL	$11,300

Sensitive pieces: $ .095-.105 each

Maintenance: $308/yr after 1st year

Gaylord/Magnavox

The Gaylord theft detection system identifies specific electromagnetic signals passing through its sensing device. This system has been marketed for a brief time and little user data were available from the LTR survey.

In the Gaylord system sensitive tags are placed in the item. The tags come in only one size and are used like book plates on flat surfaces. In a full circulation system items are desensitized at the circulation desk. In a bypass system items are passed around the detection unit.

Gaylord claims its system is virtually free of false alarms. No user data were available to verify this. However, other vendors with electromagnetic systems make this same claim but the users report a higher rate of false alarms.

It appears that the Gaylord system would require no extensive alterations in order to install. The system can be custom finished to harmonize with the surrounding areas. Other than these points, there is little that is remarkable about this system.

The Gaylord estimate was not itemized. It includes:

2 materials detection units

1 circulation unit (sensitize/desensitize)

4 turnstiles (2 locking, 2 manual)

Installation

The total cost for the above is $16,175. Two additional circulation units are necessary and it is projected that this would bring the total cost to $17,500.

The sensitive pieces are $ .10 each.

Yearly maintenance: $240/year after 1st year.

Knogo Mark II

The Knogo Mark II theft detection system identifies electromagnetic signals from items passing through its detection device.

In this system sensitized strips are placed in the spine or gutter of the item. Sensitized strips are also available for records and cassettes. In the full circulation system the items are desensitized at the circulation desk. In the by-pass system items are passed around the sensing unit.

Users of the Knogo Mark II system report only occasional false alarms.

Knogo claims that only electrical outlets are needed to install the system. The sensing device pieces have low centers of gravity and apparently do not require bolting to the floor or to a connecting platform. It should be noted that of the five systems for which photographs are available, Knogo Mark II is the least attractive.

The cost estimate for this system is as follows:

2 sensing units	$ 9,600
3 charge/discharge units	3,900
2 entrance gates	900
2 locking exit gates	900
Installation	750
TOTAL	$13,050

Detection strips: $ .07 each

Maintenance: $250/year after 1st year

Sentronic

The Sentronic theft detection system detects magnetic fields passing through its sensing device. This firm markets detection systems for a variety of uses, but in a library a sensitized "Sentron" is attached to each item to be protected. In a full circulation system, the item is desensitized when it is charged out. In a by-pass system, all items are passed around the detection device.

Sentronic claims its magnetic principle of operation is safer than the electromagnetic principle used by most other vendors. However, false alarms from metal objects are frequent, as reported by users in the LTR survey.

Sentronic offers targets in a variety of sizes for the variety of materials acquired by a library. An unusual component of this system is a screen which, when a magnetized item passes through the sensing device, locates the general area of the concealed item.

The literature distributed by Sentronic is unexpectedly shrill and defensive in tone. There is no apparent reason for this. In addition, of the 12 libraries surveyed by LTR only 3 said they would again select this company.

Sentronic did not send prices with its response to our initial request. Based on the figures cited in LTR, the following prices are projected.

2 detection units (incl. charge/discharge)	$13,500
1 extra circulation unit	900
2 entrance gates	1,000
2 locking exit gates	1,000
Installation	1,000
TOTAL	$17,400

Sensitive pieces $ .08- .25 each

Maintenance: $360/year after 1st year

Tattletape/Spartan

The Tattletape theft detection system identifies electromagnetic signals of sensitized items passing through its sensing device. According to 3M Tattletape is intended for large public and academic libraries. A cheaper version, Spartan, is intended for small libraries. 3M reports that over 1,000 systems have been installed worldwide.

Sensitized pieces are generally installed in the spine or gutter of an item. Other shapes are available for cassettes and cartridges. In the full circulation system the item is desensitized at the circulation desk. In the by-pass system all items are passed around the sensing unit.

3M claims false alarms are kept to a minimum, however, users report a higher frequency of false alarms by such items as ring binders and metal rimmed briefcases.

An estimate for a Tattletape full circulation system is as follows:

2 single corridor sensing units	$13,900
3 book check units	4,500
2 locking exit gates	1,130
2 locking entrance gates	1,130
Installation	1,000
TOTAL	$21,660

Detection strips: $ .10 each

Maintenance: $874/year after 1st year (equal to one month's lease payment)

Table 2. Cost Summary

System	Year 1[a]	Year 2[b]	Year 3	3 Year Total
Book Mark	$30,032[c]	$3,450	$3,450	$36,932
Checkpoint	27,697	3,158	3,158	34,013
Gaylord	34,760	3,240	3,240	41,240
Knogo Mark II	25,132	2,350	2,350	29,832
Sentronic	31,208	2,760	2,760	36,728
Tattletape	38,928	3,874	3,874	46,676

[a] First year costs include hardware, installation, enough targets for 20% of the Love collection (172,000)

[b] Second and third year costs include maintenance and enough targets for all current Love acquisitions (30,000)

[c] This figure includes freight charges

SELECTED PORTIONS OF Report on Evaluating the Book Theft Problem at Berkeley, with Recommendations for Action--by Donald D. Thompson, Special Projects Office, General Library, Nov. 15, 1974

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OUTLINE of Findings and Recommendations

I. Yes, there is a problem.

II. Do a random sample of Moffitt collection.

III. Acquire an Electronic Security System (ESS) for Moffitt.

IV. Query librarians about the problem and what data they have available.

V. Consider designing standard record keeping procedures for items reported missing and missing items replaced.

VI. Do samples of other libraries as required.

VII. Review recommendations of the Missing Materials Task Force; take action as economically feasible.

VIII. Do careful follow-up study and evaluation of Moffitt system.

IX. Based on studies of branches and data from Moffitt follow-up, acquire additional ESS's as required.

November 8, 1974

To: RMD
From: DDT
Subject: Book Theft

Yes, we have a problem. We probably have a number of problems. On page 1 of this report is an outline of the preliminary findings and the strategy that I recommend.

First, we definitely have a problem at Moffitt. Attachment I, page 11, is a summary report provided by Lan Dyson of a partial inventory of high use subject classes taken recently from Moffitt. As you will note, 2,179 of the 9,123 volumes inventoried were missing. Using some proportions provided on this sheet, and additional departmental records provided by Lan, I have projected a minimum annual loss rate at Moffitt of 4,235 volumes, or 2.9% of the total collection (see Attachment II, page 12, for details of the calculations). At the $17.00 purchase plus processing cost per volume provided by Lan, this would be an annual loss of $72,000.00. The figures may seem too high, but they are in keeping with loss rates found at other institutions. A recent study at the Northwestern University Library (Bruce A. Miller, "Northwestern University Library: Results of the Book Loss Study," unpublished paper dated August 10, 1974, 25pp.) indicated an overall loss rate of 1.06%! If such a loss rate exists at Berkeley, the General Library System would be losing 47,700 volumes, or $853,000 per year!

To confirm the Moffitt figures, I recommend that we do an immediate random sample of their holdings. The cost of such a study should be less than $500.00. Attachment III, p.13 provides an outline of methodology for the study, based on a design by Neal Kaske. Using the results of this study and existing Moffitt records, we should be able to determine the total losses suffered by Moffitt since its opening in 1970. Also, because we are working with a new library, and one that has done a recent (1971) total inventory, we should be able to calculate annual loss rate with a simple sample.

If the study shows what I think it will show, annual dollar loss rate at Moffitt will exceed the cost of installing an Electronic Security System (ESS). It

would cost approximately $37,000 to install a three-exit gate ESS, purchase 75,000 book-marking targets, and install the targets. Assuming that the ESS would reduce loss by 75 percent (proportion based on published studies), and that the $17.00 per item cost supplied by Lan is fairly accurate, the annual losses at Moffitt would only have to be 2,880 volumes, or 1.97 percent, for one year's losses to equal the installation and set-up cost of the ESS (see Attachment IV, page 24, for details of this calculation, and Table I, page 8, for comparable data for other General Library operating units). Considering the volume of complaints from staff, faculty and students about Moffitt losses, I would be very much surprised if the loss rate was not substantially higher than 2 percent.

Therefore, I recommend that steps be taken to locate funds for the acquisition of an ESS, and, when such funds are identified, steps be taken to acquire such a system for Moffitt. Either the Book-Mark system marketed by Sperry-Rand, or the Tattle-Tape system sold by 3M should be acceptable (see Attachment V, page 25, for a discussion of the available systems).

I further recommend that the State Fire Marshall's office be contacted early in the design and acquisition process, to forstall the types of problems experienced by CSU Bakersfield and CSU San Francisco. In both cases, delays were experienced and costly modifications were required because the planners had not worked with the Fire Marshall's office.

The nature and extent of theft problems at other campus library operations is less clear. We should query librarians at all libraries about their losses. A prototype letter is included as Attachment VI, page 29. This will give us some idea of the level of complaints and the nature of existing data and files at the various branches. Two known sources of data include records available at Moffitt and statistics about materials reported missing from the main stacks compiled by Gene Ellis of the Acquisitions Department on his own initiative.

Standardizing daily record-keeping procedures so as to collect information on book loss would probably save money otherwise spent on future theft studies. A general search policy and recording system for the number of searches and unsuccessful searches at each branch should be formulated.

Similarly, records should be kept of the number of items that are declared missing, the number of these that eventually turn up, and the number that are eventually withdrawn because they were missing rather than weeded. Information on the number and cost of items replaced would also be helpful. Records should be kept on the number of items checked out and never returned. This could be done by the staff members who regularly handle overdue billings.

Care should be taken to explain the need for these data to library staff members, to design record-keeping systems that are compatible with existing practices and the time available, and to provide feedback to the libraries involved as to the emerging patterns, actions taken, and results. Given this considerate treatment, cooperation should be better and the library employees should resent the changes less than would otherwise be the case.

Complaints have already been noted for at least three branch libraries -- Environmental Design, Education/Psychology, and Graduate Social Sciences. These libraries should also be studied, again using the Kaske sampling technique. If a case is to be made for outside funding (Berkeley Chancellor's Office or UC President's Office), the sampling will probably have to be done more than once to establish rate of loss. Cost will probably range between $1200.00 and $2500.00 per library (see Attachment VII, page 38 for a summary of proposed methodology, and a discussion of alternative approaches).

If loss rates discovered in these three libraries are high, we should probably study other campus libraries as well (see Attachment VIII, page 41, for a discussion of which libraries to study, in what priority order, and some factors which tend to predict high losses).

Presumably, most theft occurs by smuggling materials out of the library on the person (under a shirt or coat, in a boot, etc.) of the borrower. While it is known that other types of theft occur, their importance is thought to be minimal at this time.

The literature of business administration generally agrees that a large proportion of theft from business and industry is perpetrated by employees. However, such theft would be somewhat more difficult to stop than thefts by borrowers, since employees are the ones who enforce library security. More-

over, librarians seem to feel that materials taken by staff members are usually returned. Therefore, I recommend that we postpone study of this aspect of the theft problem until we have considered and dealt with what I believe to be the primary problem: theft by borrowers. If theft remains a major problem, the subject of employee theft should be reconsidered.

The courses of action to be taken for the various operating units will depend on the loss rates discovered in the studies. A few, relatively low cost approaches should be explored immediately, and other, higher cost options should be investigated for those units where loss is extremely costly.

First, there are a series of approaches that can be described as "positive," in that their emphasis is to make it more convenient for borrowers to pursue legal methods of obtaining library materials, rather than making it less convenient to obtain them illegally. The first such approach is to simplify and speed up the charging procedure. The proposed automated circulation system should accomplish this when it is installed. A second approach would be to standardize loan periods and circulation categories among the operating units, such that no unit is perceived by borrowers as more repressive in loan rules than another. Standardization should be studied and discussed with faculty and students. A third approach is some expansion and/or liberalization of photocopy service. Study of this option might indicate that provision of limited free copy service would cost the library less than it must currently pay to replace stolen volumes and individual pages (assuming that a trial program indicated that such theft was reduced).

There are also a number of negative (making theft more difficult) approaches. Currently, a number of branches are using turnstiles. Some use guards who search backpacks, parcels and briefcases. I have not been able to locate an empirical study that has indicated that either turnstiles, or guards who do not do a full body search have reduced theft of library materials by any significant degree. Moreover, the damage done to the image of the library by guards searching parcels may outweigh any savings accrued due to reduced theft.

The report of the Missing Materials Task Force, produced at Berkeley in 1972 (the report without attachments is included as Attachment IX) discussed a num-

ber of possible approaches. Several of them seem both inexpensive and sound. First, Perimeter Control of the Doe complex should be explored if (and probably only if) loss rates from the Doe collections seem high enough to justify acquisition of an ESS.

Second, Individual Unit Security should be studied in detail. Various operating units have unblocked windows leading directly from the stack areas to the outside. Others have non-secure doors leading from the stacks to the outside. At least one has a free access balcony from which materials may be thrown. While library staff generally assume that these loopholes are not currently primary channels for theft, it is assumed that they will become more important as security at normal exits -- particularly with ESS -- becomes more efficient. It should be relatively inexpensive to screen windows and provide alarmed crash bars for doors opening off stack areas.

Also, many operating units are aware that their locks have been compromised. Faculty members and, sometimes, graduate students have been given keys. Former employees have failed to turn in their keys. Those who have had keys in the past have had them duplicated. The questions of who should have keys, and whether the existing locks should be changed should be studied in detail. Also, any such study should be coordinated with Bill Wenz and George Dea who are currently studying electronic card operated access control systems.

Campus Policy and Disciplinary Action questions should also be reviewed. Full replacement cost billing (possibly coordinated through the automated circulation system), inconvenience or lost opportunity cost billing (charging the borrower who loses an item a daily fine until the item is replaced, to offset the subjective cost to other borrowers; funds acquired might be used to provide extra copies, to reduce such problems in the future), suspension of library privileges or suspension from the University and/or criminal prosecution for flagrant violations (leaping turnstyles with books, collecting large numbers of stolen University books, etc.) are some options for consideration.

The two options with some proven effectiveness in reducing losses both involve substantial costs. Greater restriction of physical access to materials, and use of an ESS do seem to reduce -- not stop, but reduce -- book theft. In the

case of greater restriction of access, two types of cost are incurred. Because borrowers are not allowed into closed stack or closed reserve areas, many man-hours are required to retrieve materials for them. This results in higher salary costs (these costs may be partially offset by lower man-hour costs in stack maintenance). The second type of cost is the subjective cost to the borrower of not being able to browse.

Many operating units currently operate some reserve collection system, if for no other reason than that some materials are in such great demand that their use must be restricted and carefully controlled. It is possible that such reserve systems could be expanded to include materials identified as probable candidates for theft.

The other proven approach is the ESS. I have already recommended acquiring such a system for Moffitt. Acquiring an ESS requires a large cash outlay for installation -- not less than $10,000 for a small library, ranging up to more than $166,000 for the central collections -- and a continuing operating cost, based in part on acquisition rate for the particular library. The cost-effectiveness of such a system may be computed in a number of ways (see Attachment X , page 60 for examples). The simplest and most straightforward is to find out if the annual loss rate in dollars is greater than the installation and set up cost of an ESS. Table I, page 8 , provides a preliminary estimate of what rates would justify ESS costs for the twenty largest General Library branches.

A second straightforward approach is to determine whether losses over a given time period (e.g. five years) would exceed ESS installation and setup costs, and operating costs over the same period. Table II, page 9, provides preliminary estimates of what total and annual loss rates would have to be over a five-year period to justify acquisition of an ESS for the twenty largest branches. It should be noted that required rates for all twenty campus branches run below one percent per year. With the possible exception of East Asiatic Library, it is anticipated that loss rates will actually turn out to be greater than one percent per year. If this is the case, correcting the problem would be costly (approximately $500,000); however, even greater savings would accrue.

TABLE I: ESTIMATED RATES OF THEFT REQUIRED FOR PROBABLE SAVINGS (75 PERCENT) OF ONE YEAR'S LOSSES TO EQUAL COST OF ACQUISITION AND SET-UP OF AN ESS AT TWENTY LARGE GENERAL LIBRARY OPERATING UNITS. 8

Library Operating Unit	Collection Size in Volmes[1]	Number of Exit Gates[2]	Estimated Set-up Cost of ESS[3]	Annual Volume Losses Required To Equal Cost[4]	Percentage of Collection
Central Collection	2,272,536	6	$ 166,000*	11,100	0.49
East Asiatic	345,533	1	26,900*	1,800	0.52
(Bancroft)	263,920	1	22,600*	1,504	0.57
Biology	169,678	2	30,600	2,040	1.20
Moffitt Undergraduate	146,123	3	36,700**	2,880	1.97
Environmental Design	100,917	1	16,600	1,110	1.10
		2	25,100	1,670	1.66
Education/Psychology	85,104	1	15,300	1,020	1.20
		2	23,800	1,590	1.86
Music	84,393	1	15,300	1,020	1.21
		2	23,800	1,580	1.88
Agriculture	83,216	1	15,200	1,010	1.21
Engineering	79,419	1	14,900	991	1.25
Graduate Social Science	64,164	1	13,600	909	1.42
		2	22,100	1,480	2.30
Earth Sciences	57,245	1	13,100	872	1.52
Public Health	54,747	1	12,900	858	1.57
Anthropology	39,48	1	11,700	777	1.97
Astron./Math./Stat./C.S.	34,5	1	11,300	751	2.17
		2	19,800	1,320	3.81
Library School	32,3	1	11,100	741	2.27
Chemistry	2 ,422	1	10,800	719	2.53
Physics	20,836	1	10,200	677	3.25
Forestry	20,786	1	10,200	677	3.26
Social Welfare	15,852	1	9,770	651	4.10
Totals and Averages					
Minimum Exit Gates	3,999,5	28	$ 475,000	32,100	0.80
Maximum Exit Gates		33	$ 517,000	34,900	0.87

1. Collection sizes obtained from General Library 1973-1974 Annual Report. Volume holdings are as of June 30, 1974.
2. Number of gates estimated on the basis of collection sizes and annual circulation data provided by the General Library business office. In cases where there was doubt, costs for two possibilities were calculated.
3. Acquisitions and set-up costs calculated by adding approximate manufacturer's equipment and installation charges, cost of purchasing targets for 50 percent of each collection, and labor cost for installing targets. Cost of structural modifications necessary in some operating units were not included.
4. Annual loss rates, in volumes, calculated by dividing installation and set-up costs by the estimated cost of purchasing and processing an average volume, and multiplying the result by 1.333 to allow for items stolen even with an ESS in operation. A standard item cost of $20.00 was used (rounded from value calculated by Ferdinand F. Leimkuhler and Michael D. Cooper in their "Cost Accounting and Analysis for University Libraries," unpublished paper produced for Ford Foundation grant #68-267, dated January 1970. p.22). Costs for items found in branches and all current costs are probably somewhat higher.

*Cost data calculated on the basis of marking one third of these collections because they are so large.
** Cost data for moffitt based on $17.00 per item estimated by Alan Dyson.

NOTE: All calculated data are working approximations. No statistical significance is implied. Calculated numbers rounded to three significant figures.

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TABLE I: ESTIMATED RATES OF THEFT REQUIRED FOR PROBABLE SAVINGS (75 PERCENT) OF FIVE YEAR'S LOSSES TO EQUAL COST OF ACQUISITION, SET-UP, AND FIVE YEAR OPERATION OF AN ESS AT TWENTY LARGE GENERAL LIBRARY OPERATING UNITS.

Library Operating Unit	Collection Size in Volumes[1]	Number of Exit Gates[2]	Estimated Annual Cost of ESS[3]	Annual Volume Losses Required to Equal Cost[4]	Percentage of Collection
Central Collection	2,272,536	6	$ 50,800*	3,170	0.14
East Asiatic	345,533	1	7,550*	472	0.14
(Bancroft)	263,920	1	6,320*	395	0.15
Biology	169,678	2	8,390	524	0.31
Moffitt Undergraduate	146,123	3	14,700**	1,080	0.74
Environmental Design	100,917	1	4,940	309	0.31
		2	6,910	432	0.43
Education/Psychology	85,104	1	4,640	290	0.34
		2	6,340	397	0.47
Music	84,393	1	4,500	281	0.33
		2	6,200	388	0.46
Agriculture	83,216	1	3,870	242	0.29
Engineering	79,419	1	4,090	256	0.32
Graduate Social Science	64,164	1	4,990	312	0.49
		2	6,690	418	0.65
Earth Sciences	57,245	1	3,370	211	0.37
Public Health	54,747	1	3,580	224	0.41
Anthropology	39,483	1	3,660	229	0.58
Astron./Math./Stat./C.S.	34,558	1	3,590	224	0.65
		2	5,290	331	0.96
Library School	32,663	1	2,760	172	0.53
Chemistry	28,422	1	2,840	177	0.62
Physics	20,836	1	2,680	168	0.81
Forestry	20,786	1	2,420	151	0.73
Social Welfare	15,852	1	2,390	149	0.94
Totals and Average Percentage of Loss:					
Minimum Exit Gates	3,999,595	28	$ 142,000	9,040	0.23
Maximum Exit Gates		33	$ 151,000	9,587	0.24

1. Collection sizes obtained from General Library 1973-1974 Annual Report. Volume holdings are as of June 30, 1974.
2. Number of gates estimated on the basis of collection sizes and annual circulation data provided by the General Library business office. In cases where there was doubt, costs for two possibilities were calculated.
3. Estimated Annual Costs were calculated on the bases of Estimated Set-up Costs (Table I, p. 8) and operating costs over five years, with the total divided by five. Operating costs wereccalculated by multiplying 1973-1974 growth rates by the cost of obtaining and installing targets ($.16), and adding a correction factor based on annual circulation rate, a declining percentage of unmarked items which will circulate, and the cost of marking these.
4. Annual loss rates, in volumes, were calculated as explained in footnote 4, Table I, p. 8.

* Cost data calculated on the basis of marking one third of these collections initially. They are very large and fifty percent marking is probably not necessary.
** Cost data for Moffitt based on $17.00 per item cost estimated by Alan Dyson.

NOTE: All calculated data are working approximations. No statistical significance is implied. Calculated numbers are rounded to three significant figures.

A third approach to cost-effectiveness analysis would involve the injection of subjective factors such as loss of the use of the materials, time wasted by borrowers searching for materials already stolen and the damage done to the library's image when it cannot provide requested material because it has been stolen. It is difficult to assign a dollar value to these real and important costs. While there are cost-benefit models (formulas) which include variables for subjective costs (e.g. Michael Bommer and Bernard Ford, "A Cost-Benefit Analysis for Determining the Value of an Electronic Security System," College and Research Libraries, July 1974, 35, pp. 270-279), I am not convinced that the injection of such subjective values in a mathematical formula is useful. I would prefer to present empirically acquired numbers and a separate discussion of subjective costs and benefits, relying on the judgement of administrators to reconcile the inevitable ambiguity. The essence of the cost-benefit process remains the same: does the benefit accrued to the library and its borrowers exceed the cost borne by the library, for a particular course of action?

In conclusion, it appears that there is a book theft problem at Berkeley. Some type of study -- probably a sampling study -- will be required to determine the extent of the problem, and to document it. Of the available options for dealing with the problem, the Electronic Security System, in conjunction with other selected positive and negative approaches, seems to offer the most hope of controlling book theft.

Attachment VI

Prototype Letter for Gathering Information
on Operating Unit Losses and Available Records

The purpose of this letter is to gather information on the nature and extent of the problem of theft of library materials at Berkeley. We do not wish to take up a lot of your time, so we have prepared a checklist for you to fill out quickly and return.

Basically, we are trying to determine which units have a problem and which don't; how great the problem is; and what existing resources are available for documenting the problem. The results of this survey will be made available to you (probably not by branch but as totals) either by letter or in CU news.

Your prompt reply would be appreciated. Also any comments or suggestions would be welcome.

Sincerely,

1. Do you consider that the problem of theft of library materials in your unit is: [ ] Severe, [ ] Average, [ ] Unimportant.

2. Please estimate the average number of volumes that you lose from your collection each year: _____ volumes per year. Estimate based on:
[ ] Inventories; [ ] Number reported missing; [ ] Pure guess;
[ ] Other (please specify).

3. Would you say that your library has the greatest problem with theft of:
[ ] Monographs; [ ] Bound periodicals; [ ] Unbound periodicals;
[ ] Individual pages or journal articles; [ ] Other (please specify).

4. Does your library maintain files of items withdrawn? [ ] Yes; [ ] No.
If yes, how far back do they go? _____ years.

5. Does your withdrawal file include information that would indicate whether an item was withdrawn because it was missing or because it was weeded?
[ ] Yes; [ ] No.

6. Do you maintain a separate "missing items" file? [ ] Yes; [ ] No.
If yes, please explain briefly how an item is placed in this file and how it is moved to full withdrawn status. _____
_____
_____

7. Do you maintain any files that indicate how many missing items are replaced? [ ] Yes; [ ] No. If yes, please include any relevant data (e.g. total number of items replaced in a particular time period; proportion of missing items replaced; annual dollar cost of replacement of missing items; etc.). _____
_____
_____

8. Which statement is most characteristic of searches in your library:
a. All items not found on the first try are searched.
b. Most items not found on the first try are searched.

c. Some items not found on the first try are searched.

d. A few items not found on the first try are searched.

e. It varies; depending on the work load and priority of the item, we may or may not be able to search a particular item.

9. Please estimate the number of working hours per week spent on searching missing materials. _____ hours per week.

10. Do you keep records of the number of searches done? [ ] Yes; [ ] No. If yes, do you keep records on the number of items found and, separately, not found in the search process? [ ] Yes; [ ] No.

11. Have you ever done a complete or partial inventory? [ ] Yes, complete; [ ] Yes, partial; [ ] No inventory ever done. If yes, when was the last inventory? 19___. Have you done more than one inventory? [ ] Yes; [ ] No. If yes, are records available for determining the amount of loss during the period between inventories? [ ] Yes; [ ] No.

12. Do you keep any records of the number of items charged out and never returned? [ ] Yes; [ ] No. If yes, please provide any information available. If no, do you consider losses of this type to be a significant problem at your unit? _____

_____

_____

13. Please include any comments or suggestions on the problem of book theft.

_____

_____

_____

PART II ONLY OF A Report on the Moffitt Undergraduate Library Book Theft Study, by Neal K. Kaske, Library Systems Office and Donald D. Thompson, Special Projects, March 1975

INTRODUCTION AND STATEMENT OF THE PROBLEM

BERKELEY

The purpose of this study was twofold: (1) to determine the extent of book losses due to theft in the Moffitt Undergraduate Library, and (2) to determine the cost effectiveness of book security systems for the Moffitt Undergraduate Library. The first purpose was met by conducting a sample inventory of the monograph collection in Moffitt. The second purpose was met by interpreting the statistical findings of the sample inventory in economic terms and making recommendations regarding the cost effectiveness of a book security system for the Moffitt Undergraduate Library.

The staff of the Moffitt Undergraduate Library believe their library to be incurring significant book losses as a result of theft. A complete inventory of select parts of the collection carried September 1974 (attachment #1) affirmed this belief.

A complete inventory of the Library's monograph collection was ruled out because of the collection's size and dynamic nature. The expense and disruption to library services also ruled against a complete inventory. Therefore, a sample inventory was decided upon in an effort to statistically estimate the level of book theft. Once the level of loss was obtained, an economic value of the lost materials could be set and the cost effectiveness of book security systems could be evaluated. Part two of this report covers the costing and evaluation of these systems and their cost effectiveness for the Moffitt Undergraduate Library.

PART II: THE COST-EFFECTIVENESS ANALYSIS

METHODOLOGY

It was necessary to estimate the size and cost of the Moffitt Undergraduate Library monograph collection in order to estimate the annual dollar loss rate. It was intended to determine how many years' losses would be required to offset the costs of acquisition and installation of an Electronic Security System (ESS).

Estimation of the monograph collection size was accomplished by determining how many monographs were included in the Moffitt shelflist. Four hundred samples of 20 millimeters of cards each were randomly selected. The number of cards, titles and volumes found in each of these samples was tabulated. Averages were calculated. The total number of millimeters of cards was obtained by measuring the entire shelflist (24,291 mm). Total number of cards, titles and, separately, volumes in the shelflist were calculated by multiplying the appropriate average by the total number of millimeters of cards.

There are approximately 34,600 cards in the Moffitt shelflist. These cards represent approximately 67,500 titles. These titles represent 123,000 volumes. There are about 1.25 cards per title. Also there are about 0.69 cards per volume. There are approximately 1.82 volumes per title, including multiple copies and multi-volume monographs.

A total inventory of the Moffitt collection was conducted during the summer of 1971. It was concluded in August of that year, forty-one months

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before the current study. At that time, the shelflist was updated. Cards for missing titles were removed. Missing volumes were noted on the shelflist cards. Because this was done, it was possible to determine not only the gross losses from the collection, but also the average monthly and annual loss rates.

The results of the loss sampling study, as reported earlier in Mr. Kaske's section of this report, indicate that 2.02 percent of the Moffitt monograph collection was reported missing since August 1971, and that an additional 13.70 percent were found to have disappeared during the same period, but were not reported. In all, approximately 15.72 percent of the 123,000 monograph volumes were lost during this forty-one month period. Table I, p. 12, shows the current status of the collection.

If the losses occurred at a regular rate, month by month, year by year, this would amount to monthly losses of 472 volumes or 0.38 percent per month. Annually, Moffitt would have lost 5,670 volumes or 4.60 percent. Lan Dyson, Head Librarian at Moffitt, has indicated that the average cost of acquiring a monograph at that library is approximately $10.00, and that the cost of technical processing for each volume is about $7.00. At a combined total of $17.00 to put each monograph volume on the shelf, monthly losses at Moffitt seem to be about $8,030, and annual losses amount to $96,400. Total monograph losses since August of 1971 represent approximately $320,000. If the title to volume ratio found in the larger sample loss rate study (1:1.9) were used for calculations instead of the smaller sample collection size study ratio (1.82), all of the loss and cost data would be revised upwards by 3.93 percent. Table II, p. 13, provides more detailed information on the rates and costs of losses.

Table I: Estimated
Status of Moffitt Undergraduate Library
Monograph Collection: January 1975

	Percentages	Physical volumes
Books in their correct location on the shelf	77.32%	95,300
Books in Circulation file		
a. checked out	6.27%	7,730
b. being held	.16%	197
Books at the Bindery	.32%	394
Books recorded missing before the sample inventory	2.02%	2,490
Books misshelved*	.21%	259
Books missing as a result of theft (assumption)	13.70%	16,900
Total	100.00%	123,000

*misshelved was defined as being out of place by more than one half a shelf.

Table II: Estimated
Costs of Losses from Moffitt Undergraduate
Library Monograph Collection

		Percent of Collection	Number of Volumes	Dollar Cost Including Processing
Total Losses from August 1971 to January 1975				
Previously reported missing		2.02%	2,490	$42,300
Found to be missing in study		13.70%	16,900	287,000
	Total	15.72%	19,400	$329,000
Annual Loss Rates				
Reported Missing		0.59%	728	$12,400
Found in study		4.01%	4,940	83,980
	Total	4.60%	5,670	$96,400
Estimated Cost of ESS system for Moffitt				$36,700

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It should also be noted that this study covers only monograph losses. The General Library collection size tables indicate that there are a total of 146,123 total volumes at Moffitt. This study indicates that 123,000 of those are monograph volumes. This leaves 23,000 non-monograph volumes (mostly serials of various types). Some of these disappear as well. If the loss rate for non-monograph materials were similar to that for monographs, Moffitt would lose an additional 1050 serials volumes annually. However, because no data were available on losses of these materials, they were not included in the cost-effectiveness comparison except for calculating the cost of marking them for electronic detection.

COST-EFFECTIVENESS COMPARISON

The second part of the cost-effectiveness study was to determine the advisability of obtaining an electronic theft detection or electronic security system (ESS)for the Moffitt Undergraduate Library. Manufacturers (Book-Mark and Tattle-Tape) have supplied cost data for installation and maintenance of ESS systems. Purchasing and installing a three gate ESS system should be approximately $25,000. This cost will vary, depending upon how much physical modification of the building would be necessary, and how eager the manufacturers are to install the first ESS at UC Berkeley. An additional cost involves the purchase and installation of target strips in books. The average cost of targets is approximately $.10 each, and the average cost of installing them seems to be about $.06 each. If targets were installed in half of Moffitt's 146,123 volumes (this total includes non-monograph volumes) at the outset, the total cost would be approximately

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$11,600. Therefore, the total initial installation and set-up costs would be approximately $35,600.

Reports from other library systems indicate that ESS systems generally eliminate not less than 75 percent of normal losses. If this were the case at Moffitt, the annual cost of loss would be reduced from $96,400 to $24,100 or less. This would result in a savings of about $72,300 per year. Phrased another way, if the system were about 75 percent effective, it would take about six months of reduced losses to pay for itself.

It is, therefore, strongly recommended that system requirements be drafted for acquisition of an ESS and that an Electronic Security System be acquired and installed at Moffitt.

Donald D. Thompson

Special Projects

PORTIONS OF Northwestern University Library Results
of the Book Loss Study, Bruce A. Miller, August 19, 1974.
Tables, graphs omitted.

NORTHWESTERN

INTRODUCTION

The purpose of this study was to determine the extent of the Library's book losses. The methodology used was a two-stage sampling procedure, selecting books from an abbreviated machine-readable shelf list. The following information was derived for the Africana, Curriculum, East Asian, Main, Management, and Technological Institute (Tech) collections:

(1) Estimates of the percentages and number of physical pieces lost (in all collections except Tech) from January, 1970 through June, 1973 were calculated. For Tech, estimates were made of the percentage and number of pieces missing at the time of searching.

(2) For certain collections, book losses correlated with the following characteristics: having additional copies, written in English, printed recently, and not being a periodical.

(3) An estimate was made of the potential dollar savings to the Main Library and Deering if a 3M book security system were installed.

METHODOLOGY

When the on-line circulation system was implemented at the Northwestern University Library in January, 1970, a computer-readable record was made of the call numbers of nearly all physical pieces in the Africana, Curriculum, East Asian, Main[1], Management and Tech collections. This call number file, or "inventory file", has been updated annually. Since all call numbers were initially present in the file, it was possible to use it to estimate the losses in different collections within the Library since January, 1970.

The method used to obtain the loss estimate was a two-stage random sampling procedure. An initial group of call numbers was chosen randomly within each collection, using an intuitive estimate of 5% of each collection having been lost over the period January, 1970 - June, 1973. From this first sample, a proportion of lost books was determined. This value was then used in a formula developed by Professor Sorum to calculate the number of additional call numbers (if any) needed for the proportion of lost books to be statistically valid within one percent.

The searching procedure used in the study began with a check for each sampled book in its proper place in the stacks. If not found, the circulation system was queried for a record of the book. If no record was present, the stacks were checked again after at least two weeks. Finally, the circulation system was queried once more for a record of the call number. Only if a book were not accounted for at this point was the book identified as "lost". Books which were lost prior to 1970 (when all collections except Tech were moved) were disregarded in the study, except for Tech. Books lost since 1969 but whose records were being withdrawn from the collection were not counted as lost either. In a few cases a missing book was located after the search was completed. These items were still counted as lost; their numbers are noted below in Table I.

The specific procedure for choosing the actual call numbers in the samples was as follows: An initial number of books to be sampled was picked, 750 in the case of the Main collection, which contained 743,349 books (see Table I). A computer program was run at the Vogelback Computing Center to generate this many random numbers. For the Main collection, for instance, 750 random numbers were listed, each between 1 and 743,349 inclusive. Every random number was then matched with the appropriate call number -- i.e., if 10 were a random number chosen, the tenth call number in sequence in that collection was picked. The result is a sample of random call numbers from a collection.

1 The Main collection includes all books in the Main Library, excluding collections in Africana, Curriculum, the basement and second floors. All works in Deering are excluded.

TABLE I

Collection and Sample Sizes and Loss Estimates

Collection	Collection Size	First sample size	Estimate of loss	Second sample size	Estimate of loss	Overall sample size	Overall estimate of loss	95% confidence interval	Percent lost bo found later
Africana	58,345 vol.	1,000 vol.	$\frac{28}{998}$ = 2.8%	1,034 vol.	$\frac{35}{1028}$ = 3.4%	2,034 vol.	$\frac{63}{2026}$ = 3.1%	2.1%, 4.1%	$\frac{9}{63}$ = 14%
Curriculum	7,625	950	$\frac{16}{925}$ = 1.7%	0	--	950	$\frac{16}{925}$ = 1.7%	0.7%, 2.7%	$\frac{6}{16}$ = 38%
East Asian	18,852	750	$\frac{8}{746}$ = 1.1%	0	--	750	$\frac{8}{746}$ = 1.1%	0.1%, 2.1%	$\frac{2}{8}$ = 25%
Main	743,349	750	$\frac{28}{742}$ = 3.8%	1,000	$\frac{38}{989}$ = 3.8%	1,750	$\frac{66}{1731}$ = 3.8%	2.8%, 4.8%	$\frac{5}{66}$ = 8%
Management	32,845	1,000	$\frac{22}{999}$ = 2.2%	0	--	1,000	$\frac{22}{999}$ = 2.2%	1.2%, 3.2%	unknown
Technological Institute	102,649	1,000	$\frac{67}{994}$ = 6.7%	0	--	1,000	$\frac{67}{994}$ = 6.7%	5.2%, 8.2%[a]	unknown

[a] Confidence interval larger than 2% since sampling was discontinued due to difficulty in searching.

After searching the initial sample, the proportion of lost books was calculated -- 28/742, or 3.8% for the Main collection[2]. A second group of call numbers was then chosen, using the same process of random selection. The number of these was calculated from a formula developed by Professor Sorum[3]. For four of the collections, no further sampling was done. The Main collection required a second sample of 1,000 call numbers, yielding a proportion lost of 38/989, or 3.8%. Combining both samples from the Main collection, the proportion lost was 66/1731, or 3.8%.

It is helpful to have not only an estimate of the proportion of books lost from a collection, but also a measure of the accuracy of the proportion. For this study a 1% accuracy was desired -- i.e., each proportion would be valid plus or minus 1%. The 3.8% loss estimate for the Main collection, for instance, was accurate within the interval 2.8% to 4.8%. This interval is called a "95% confidence interval". If one were to repeatedly sample using the method described, then 95% of the time the proportions of lost books would indeed be within the stated intervals.

2 742 rather than 750 was used as the number of call numbers sampled. Eight of the 750 call numbers were books which had been withdrawn from the Main collection, and could not be counted as either lost or found.

3 Sorum, M. and Miller, B. "A Two-Stage Sampling Procedure for Estimating the Number of Lost Books in a Library".

RESULTS

Table II gives the estimated percent of loss of books in each of the six collections, and the estimated number of books lost from each collection in 3½ years. The losses range from 1.1% in the East Asian collection to 3.8% in the Main collection. Approximately 6.7% of the Tech collection was missing, but this figure was not based upon a valid shelflist, as was the case for the other five collections. The 2.2% loss figure for Management is low, since that collection was searched in the first year Management classes were being taught at the Evanston campus.

The estimated number of books lost are of more interest than the percentages, since the numbers suggest the amount of material not available to Library users, and the potential cost of replacement of lost materials. The figure of 28,250 books for the Main collection is sobering. Even allowing for perhaps one-fifth of these to appear later (an intuitive estimate), 22,600 were still absent in June, 1973. The loss figure for Africana was 1,810, 130 for Curriculum, 110 for East Asian, and 720 for Management. The total number of books lost in 3½ years from the five collections in the Main Library and Deering was 31,120. Finally, about 6,880 books were missing from Tech at the time of the study; some of these were missing prior to 1970.

It was hoped that the book loss study would also provide information as to what characterisitics correlate with book losses. One potential correlate was having additional copies -- a book with one or more additional copies was more likely to be lost than a book with no additional copies. Table III shows the percentages of books lost and books found which had additional copies. For instance, 30% of the sampled books lost from the Main collection had additional copies, while only 12% of the books in the Main samples had additional copies. In all collections except East Asian, a book with additional copies was more likely to be lost than a book without additional copies. (The percentages in the East Asian collection, 1% and 0%, were too small for the difference between them to be significant.) Indeed, one might expect to find the number of copies to correlate with book loss, since titles with additional copies are more likely to be used. Use, in turn is a strong correlate with loss[4].

Another characteristic that relates to loss in most instances is whether a book is a periodical. A "periodical" was defined for this study as "any publication which appears (or did) regularly, is issued in successive parts, is intended to be continued indefinately and normally contains separate articles in each issue." Table IV shows the percentage of books lost which were periodicals, and the percentage of the sampled books which were periodicals.

4 Roberts, Matt. "Guards, Turnstiles, Electronic Devices and the Illusion of Security." College and Research Libraries v. 29, no. 4 (July 1968), pp. 259-275. Interestingly, Roberts did not find a strong correlation between the number of multiple copies and the extent of book loss in his study at Washington University. His hypothesis, which was not borne out, was that "a higher ratio of multiple copies to volumes will result in a lower rate of loss." (p. 262)

For Africana there was no significant difference between the two percentages (24% and 26%). The low number of periodicals in the Curriculum sample (9) made the comparison irrelevant for this collection. The remaining four collections displayed a marked tendency to lose more non-periodicals. The Main collection, for instance, showed 24% of the two samples to be periodicals, but only 6% of the books lost were periodicals. Thus one can conclude that non-periodicals are more likely to be lost than periodicals in the East Asian, Main, Management and Tech collections.

The country of imprint, U.S. or non-U.S., was also a characteristic whose relation to loss was to be checked. Unfortunately, the instructions to the searchers were incorrect, and this was changed to English language versus non-English language publication. Only one collection, Curriculum, was correctly searched. The results are shown in Table V. Seventy-five percent of the sample and 100% of the books lost were U.S. imprints. Thus U.S. imprints are more likely to be lost than are non-U.S. imprints in Curriculum.

The remaining five collections were checked as to whether English language books are more likely to be lost than non-English books in these collections. Seventy-eight percent of the Tech collection were in English, for instance, but a much larger percent (93%) of the missing Tech books were in English. The East Asian sample consisted entirely of non-English books, so the relation is meaningless for this collection. Conversely, 99% of the Management sample was in English, so this characterisitic was not a useful indicator of the probability of loss in this collection.

The final characteristic whose relation to book loss was checked was the year of imprint. A profile of the sample of each collection was made, and contrasted against this was a profile of the lost books. These are shown in Figures 1 - 9.

The two sets of profiles differ quite strikingly from collection to collection. Africana (Figure 1) shows a loss curve composed of two parts, one from about 1920-1936 and the other post-World War II. This collection appears to be used roughly in proportion to the dates of its holdings. Curriculum is a much more recent collection with a large number of its holdings dated since 1968. Loss is not easily measured here since it is low, but books printed since 1968 are more likely to be lost than are earlier works.

The East Asian collection represents books printed mostly after 1870, distributed over the succeeding years. The three ranges of losses in this collection appears to coincide with the three peak periods for holdings, 1925-1944, 1947-1958, and 1961-1970.

The profile of the Main collection, essentially humanities and social sciences, shows a number of peaks in the number of books printed in various years. Losses are certainly not confined to recent works (post - 1900 or post-1946) as shown by the losses of books printed from 1841 to the early 1900's. Since losses correlate with book usage, one would expect the loss curve to match the curve for usage of books by the date of imprint.

Indeed, this is the case, if one compares Figure 4 to the usage curves of social sciences and humanities books in Deering Library in Fussler and Simon's Patterns in the Use of Books in Large Research Libraries (Figures 5 and 6).[5]

The sample of the Management collection shown in Figure 7 is composed of books printed since 1881. The loss curve corresponds roughly to the peak period of imprint, 1921-1940 and 1945-1972. Books printed since 1948 are most likely to be lost. The loss curve may have changed, since this study was done just as Managment classess were in their first year of instruction on the Evanston campus.

Finally, the Tech collection shows a fairly steady growth in the number of titles printed past 1900, with a peak from 1959 to 1970. The loss curve follows the holdings curve. One would expect to see a marked peak for books lost in the last ten years. This is probably not the case because the losses shown have occurred over a number of years, and not just since January, 1970.

5 Fussler, Herman H. and Simon, Julian L. Patterns in the Use of Books in Large Research Libraries. Chicago: University of Chicago Press, 1969. This study covered only mongraph usage, but the addition of bound periodicals should not significantly change the shapes of the curves.

IMPLICATIONS OF THE STUDY

Several results have come from this study. First, better estimates of the actual number of book losses in six of the Library collections are available. To date, only educated guesses could be made. The size of these losses is a matter for concern.

The loss figures have implications in considering whether an electronic book security system would save the Library money, and the users some frustration through greater availability of desired materials. Indeed, it does appear that a significant savings would occur.

Suppose that book losses over the next 3½ years are identical to those for the past 3½ years. Then 31,120 books will be lost from the five collections in the Main Library and Deering:

Africana	1,810
Curriculum	130
East Asian	210
Main	28,250
Management	720
	31,120

If one assumes that one-fifth of these books will be returned at a later time, the actual number of books lost decreases to 24,900. The cost to the Library of this loss is $498,000 if one assumes an average of $10 per book and $10 for processing. If a 3M Tattle-Tape system were installed at the Library, with 150,000 strips distributed throughout the collections, the cost was estimated at $32,500 in January, 1974:

labor (3,334 man-hours)	$ 7,500
strips (150,000 at 10¢ each)	$15,000
3M detector and sensor units[6]	$10,000
	$32,500

If one assumes that book losses would be cut by 2/3 with the 3M system, the number of books lost would be 8,290. The expense of replacing these books, using the same unit costs, would be $165,800. Thus the dollar savings to the Library in four years with 3M systems at the perimeters would be $299,700:

Cost of installing 3M system	$ 32,500
Cost of replacing 8,290 books	$165,800
Total cost with 3M system	$198,300
Costs without 3M system	$498,000
Costs with 3M system	$198,300
Total savings with 3M system	$299,700

[6] Only one unit is budgeted, say for the Plaza. The unit in Core would go to the Lantern. A unit in Leverone would hopefully be funded by the School of Management.

Besides the dollar savings of such a system, the increased availability of books to Library users should be noted. The study by Roberts[7] found that circulation of a book correlated closely with the probability of its being lost. In other words, the books most likely to be lost are those books most in demand. Measures such as "document exposure" or indicators of the increased probability that a user can obtain the desired book in the length of time needed, would certainly increase with such a book loss system.

Another type of information provided by the book loss study has been the compilation of several profiles of the six collections. The percentages of each collection which have added copies, are periodicals, are English language or U.S. imprints, and the distribution by date of imprint are now available.

Finally, the percentages of books found at each stage of the search are shown in Table VII. These indicate that about 9/10 of most books were on the shelves when searched. Except for Management, only a small number of books (0% to 4%) were located in the circulation system. Checking the stacks and circulation system a second time allowed an additional 0.9% (East Asian) to 5.0% (Tech) of the samples to be located. One could argue that an item is lost to the user if no trace were available after the first circulation system query, since there is no means of obtaining the desired book.

In closing, this study will have been worth the sizeable amount of time invested by the participants if the Library's losses are better understood, and through this understanding, decreased. Hopefully, the more exact data reported in this study will enable this happy circumstance to occur.

[7] Roberts, op. cit.

UNIVERSITY OF BRITISH COLUMBIA LIBRARY

Interim Report of the Task Force on Library Security

The Task Force on Library Security was established in the spring of 1975 with the following terms of reference.

1. To investigate the extent of loss by theft in each division or branch of the Library.
2. To examine present security procedures throughout the Library system.
3. To recommend changes in security arrangements.

Original members were Elisabeth Bouscholte, Rita Butterfield, Erik de Bruijn, Carol Hamill, Joyce Harries, Walter Harrington, Douglas McInnes, David Miller, and William Watson, chairman. Ms. Hamill and Mr. Miller are no longer with the Library.

The Task Force met first on May 7, 1975, and since that time has had seven other meetings. The latest being held February , 1977. Members agreed to interpret "loss by theft" in the terms of reference so as to include all kinds of losses. They undertook a literature search, spoke with other members of the library staff, and took part in a sampling project to estimate the losses from the Main Library.

This interim report, with recommendations, covers the Main Library only. The Task Force intends to review the security of other branches and divisions next and to make another report in due course.

Project to Estimate Main Stack Losses

The literature search, based on Library Literature entries, did not produce much in the way of practical solutions to the problem of book losses, but it did suggest the possibility of a project to estimate losses through a sampling technique. By mid-July 1975, we decided on the scope and nature of the project and agreed to ask the Systems Division to produce a listing of books to be checked. They were able to provide the list at the end of the year, and the project was begun in early 1976. The form letter inviting librarians' participation is appended below, as is the report on the project dated September 13, 1976. Subsequent to that report, another check of books brought that project to a conclusion with these results:

Number of items surveyed, excluding 16 duplicate entries and 2 errors		3,754
Items satisfactorily accounted for:		
- on the shelves	3,429	
- in storage	183	
- withdrawn as superseded	6	
- in the binding process	1	
- on loan	8	
- overdue by a few days	1	
	3,628	3,628

Items not satisfactorily accounted for:		
- withdrawn as missing	10	
- identified as missing - reordered	2	
- identified as missing - not reordered	18	
- identified as missing - clear record	2	
- long overdue	1	
- not located	93	
	126	126

In this sample 96.64 percent of the books were satisfactorily accounted for and 3.36 percent were not.

Because the sample population was entirely new books with imprints of 1970 and later and therefore among the more coveted books in the collection, we believed it reasonable to suppose that the rate of loss was likely to be higher than for the general population of the Main Library. On this assumption we were surprised that the loss rate over five years should total as little as 3.36 percent of the sample.

Obviously there is no guarantee that because the loss rate in a sample is low the same is true for the whole population with its back files of journals and out-of-print books. However, in the absence of better indications we accept the results as the basis for the following recommendation:

1. While the loss of material from the Main stacks is expensive, wasteful, and deplorable, it does not appear to be so extensive as to impel any drastic or immediate action, but we recommend that an electronic book security system be installed in the Main Library as soon as it can be afforded.

Other Losses from the Main Library

The Task Force also attempted to get some feel for the losses of unbound issues of journals, reports, and documents. A note on our assessment of these losses is appended below. It would appear that a dollar value of the losses in terms of staff costs alone would come to more than $20,000 per year. We also recognize, of course, that the dollar value takes no account of the loss to the potential user.

We spent some time in discussion of the lay-out of the library, in particular level 5 and to a lesser extent level 3. As part of the general security picture we hoped to find a satisfactory way of consolidating the number of stack exits so as to effect some staff savings. When the Library is fully open there are three manned exits from level 5 and one from level 3. If to these is added the reserve book collection exit, there are five points, three of which handle very little circulation activity but need to be manned because of the complexity of the building. Consolidation of stack exits on level 5 proved to be unsatisfactory for reasons indicated below.

The security of the Periodicals area on floor 5 is worsened by the openess of the current files, and by the openess of the materials waiting for binding. Material from the area may be carried anywhere in the stacks and it may be charged out legitimately at any of the four main stack circulation stations. Most of it is easily concealable in clothing or in briefcases and notebooks.

Since the Task Force began to consider losses of current periodicals two measures have been taken which should have a beneficial effect. One is that at Periodicals the borrower's card is kept until unbound backfiles are returned. This procedure works only during business-day hours, because in the evenings and on week-ends the area is

not staffed, and people are accustomed to helping themselves to the issues awaiting binding. Nevertheless, the Periodicals staff observe that less of this material is now going misaing. The other measure inplemented was in Circulation, where the process of recalling overdue signed-out periodicals is being attended to more regularly. Again, it is observed that the file of overdues in slighter than it was previously.

We recognize that a high level of security can be achieved only when the current periodicals are separated from the open stacks and they are charged out through fewer, preferably one, circulation stations. We also recognize that such a separation is of serious concern to the reference divisions where it is believed that any further barriers interposed between the reference areas and the stacks or the periodicals would work against the best interests of the users. In view of this, we do not recommend that periodicals be separated from the reference areas or the stacks.

There are, nevertheless, several measures which can be taken without inordinate expense to cut losses from Periodicals, and we recommend that they be pursued as it becomes practical to do so.

2. We recommend that issues of periodicals be better identified for easy recognition by a more visible stamp, an attached label, an embossment, some other device, or some combination of devices.

3. We recommend that the Periodicals work and counter area be made secure so that in the evenings and on week-ends the periodicals awaiting binding can be reached only through the reference or information staff.

4. We recommend that the Systems Division design and implement an automated circulation system for current materials to replace the awkward manual system which frustrates borrowers and leads them to take easier routes.

5. We recommend that at such time as the Main Library is protected with electronic detection installations consideration be given to sensitizing the current periodicals or those of them deemed most likely to be taken.

WJW/jd
11/2/77

THE UNIVERSITY OF BRITISH COLUMBIA LIBRARY

Final Report of the Task Force on Library Security

This report is to be considered as a continuation to and conclusion of the report submitted Febraury 18, 1977, under the title "Interim Report of the Task Force on Library Security".

Since that report members of the task force met twice, undertook surveys of the branches and divisions of the library system, and developed further recommendations on matters affecting library security.

Each member of the group was responsible for surveying two or more branches and divisions. The individual reports are attached to this report as Appendix 1. Resumes of the reports for divisions in the Main Library and for external branches are attached as Appendix 2.

Recommendations for action are as follows:

General Recommendations

1. Persons on duty at the stack exits and circulation stations generally should be at or close by their stations at all times. Especially in locations where only one person is on duty this will be something of a problem, but the attendants should be told that library security is one of their chief responsibilities. They should not leave a turnstile unlocked or in a position to be unlocked by the departing library user. If the attendant must leave the station for a brief time for a personal reason, the turnstile should be locked and a note left saying something like "Back in a moment. Please wait."

2. Library attendants should be reminded that at all times they are expected to be watchful and alert. They should give the impression that they are on duty to prevent unauthorized removal of material from the collection. They should not appear to be careless or over-permissive. They should check all briefcases routinely.

3. The Information and Orientation Division should be asked to consider developing a program or a display on book and periodical mutilation pointing out the ways in which subsequent users are penalized when material is taken from volumes. It might be considered with or separate from the problems of theft and unauthorized borrowing.

4. From time to time all security systems - manual, electronic, mechanical - should be tested to determine whether they are working properly, as emergency exiting is tested by a fire drill or by a false alarm. When the University patrol is involved the matter should be cleared with the University administration before any test is made.

Particular Recommendations

1. The Bio-Medical Branch Library should undertake a full inventory whenever it can, preferably this summer, and if it cannot manage an inventory with regular staff should ask for special assistance.

Particular Recommendations (continued)

2. Crane Library is worth a special study to determine how security can be improved and at what costs.

3. Serious attention should be given to methods to ensure the return of books to the Curriculum Laboratory by students, particularly final-year students who take teaching materials away on their final practicum.

4. The Law Library should attempt to anticipate and provide for the problems that are apt to arise when Tattle-Taped materials are removed by faculty members during times when the library is closed.

5. The inventory of the Woodward Library collections should be undertaken this summer if possible. It should be determined whether the Checkpoint system is effective and, if not, whether it can be made so. If it cannot be made effective serious consideration should be given to the possibility of replacing Checkpoint with an effective system in spite of the considerable cost that would be involved. Also the electronic system leased from General Alarms should be assessed and, if found to be unsatisfactory, made good or replaced.

Asian Studies Division. Losses are fairly rare. In its present location no additional security measures are necessary for this library.

Fine Arts Division. This division has a Checkpoint system. Losses are few. No new security arrangements are warranted.

Humanities and Social Sciences Divisions. Broadly, the security of these divisional collections, as with that of Science, are part of the security of the main stacks. Losses do not appear to constitute a serious problem, and no particular security measures need to be instituted. Circulation attendants should be reminded periodically to be watchful.

Science Division. What has been reported above for Humanities and Social Sciences applies equally to the Science Division. Installation of a book security system would be justified only by stack losses through the divisional circulation control point.

Special Collections Division. Considerable attention is paid to the security of materials in this division. Few non-staff members enter the vault, and after hours it is protected by an electronic system that is linked to the University patrol. No other arrangements would appear to be necessary, although from time to time it might be worth deliberately setting off the system to check the effectiveness of the protection.

WJW/jd
2/5/77

UBC Library Security Resume - External Branches

Animal Resource Ecology Library. Security has not been considered a problem. The library is moving to new quarters this month, and control of the collections will be much easier to maintain.

Bio-Medical Branch Library. Book losses are not very numerous, but it is the important books that go missing. When only one staff member is on duty that person should never be away from the exit. A full-scale inventory is needed before a decision is taken as to whether a book security system is needed.

Crane Library. This library is a special case because of its clientele, its collections formats, and its equipment. It probably needs special study, and it is likely that a book security system would be appropriate.

Curriculum Laboratory. A Tattle-Tape system is being installed and should be in operation this summer. It will not, however, prevent the Curriculum Laboratory's main loss, which is the non-return of borrowed materials by graduating students. If arrangements cannot be made to withhold graduation from offenders, the imposition of a refundable deposit should be explored.

Data Library. Collections security has not become a problem.

Law Library. Tattle-Tape is being installed and the system should be in operation this summer. Many Law faculty members have keys and borrow material after hours; this will lead to difficulties if it continues after Tattle-Tape is in operation. Losses have not been perceived as heavy.

MacMillan (Forestry/Agriculture) Library. Tattle-Tape is being installed and the system is intended to be working by the summer. Otherwise, the removal of material from journals, especially on popular topics, is a problem that Tattle-Tape will not solve. Perhaps an information program on losses through mutilation would be worth developing.

Mathematics Library. Losses have been considered as being within acceptable limits. No security system installation or special security measures appear to be warranted.

Music Library. A Tattle-Tape installation has been requested but not yet funded. Losses do not appear to constitute a big problem, and so there is no urgency about installing a security system.

Sedgewick Library. This library has had a Tattle-Tape system installed since the summer of 1975. About 60% of the bound volumes were taped at the time, since when the librarians came to the conclusion that all materials should be taped. By autumn of this year practically all the collection will be so protected. No other security measures are planned. Losses will be monitored by annual inventories so long as this can be managed.

61 053

Marjorie Smith (Social Work) Library. Losses appear to be within an acceptable limit. The librarian hopes to have a Tattle-Tape system installed, but there is no urgency about it.

Wilson Recordings Library. Security does not pose any serious problem, most losses occurring through non-return of borrowed material. Because Tattle-Tape strips for recordings are so conspicuous on the disc, they would not be recommended for this collection.

Woodward Library. Although this library has had a Checkpoint security system installed since 1971 it is not believed to have been effective. The exact extent of losses is not known because full-scale inventories were not taken. One is planned for this summer if funds are available. A letter is being sent to Checkpoint complaining about the non-effectiveness of the system. If it is not substantially improved, replacement of Checkpoint with another system should be considered despite the high cost involved. Also steps should be taken to make the electronic building security system more reliable.

WJW/jd
2/5/77

IMPLEMENTATION PROCEDURES

TATTLE TAPE ALARM STATISTICS 1976

Reasons for Alarms	1976	1975	1974
Material not charged (obvious attempted thefts)	57	38	59
Material not charged (attempted theft doubtful)	168	482	162
Material charged but not desensitized	407		
Alarm activated by non-library materials	153	137	190
Alarm activated, reason unknown	40	49	7
Miscellaneous	51	NA	NA
Categories of Persons			
G.U. Undergraduate	20	16	
G.U. Graduate	5	2	
Consortium Students	5	6	
sity 3			
on Univ. 2			
Other local schools	2	5	
Schools out of D.C. area	9	5	
No school affiliation	16	4	
Type of Material Involved			
Books	36	26	
Journals (unbound)	34	29	
Government Documents	0	4	
Time of Attempted Thefts			
Mornings	6	4	
Afternoons	39	24	
Evenings	12	12	

056
JD

Responsibilities and Procedures for Implementing the 3M Tattle-Tape System in Paley Library as of May 24, 1973.

I. Publicity

TEMPLE

A. External (Outside Paley and Off Campus)

Responsibility for creating, distributing information about the 3M Tattle-Tape System outside Paley will be the responsibility of the Assistant to the Director (Barbara Wright) with the Director and Assistant Director for Public Services reviewing and recommending where necessary. Principal contact for advice in handling and distributing information (releases and announcements) will be Emilie Mulholland of the University News Bureau. Miss Mulholland has agreed to assist Miss Wright. Initial publicity will be generated during the first summer session and again in the fall.

B. Internal (Paley Library Staff and Administrators)

Orientations as to what the 3M Tattle-Tape System is, what it does and the responsibilities of the Paley Library staff in making it work will be coordinated by Miss Wright and the Assistant Director for Public Services. Orientation talks will be initially given in all departments directly involved with the system. Subsequent lectures will be scheduled for informational purposes. (Academic Assembly, 17 May and TULSA on 23 May 1973)

C. General

Orientations will include Barbara Wright and the Assistant Director for Public Services individually or in combination. The film describing, in general, how the system works will be shown frequently and in connection with orientation talks. The Director, Assistant Director, and Head of the Circulation Department will give specific instructions to Exit Control.

Printed general information for distribution "in house" will be placed initially at all Public Services Division Desks. At the end of the summer session, a review with the Director, the Assistant Director for Public Services, the Assistant to the Director and members of the staff will determine if the publicity was adequate.

II. Sensitizing the Collection

A. What is to be sensitized?

Approximately 70-100,000 "high risk" cataloged items will be retroactively sensitized during the summer session, 1973. Random insertions will also be made elsewhere this summer. All new items coming into the collection will be sensitized. Selected current periodicals will be included.

B. Who will do the sensitizing?

All new publications will be sensitized in the Technical Services Division as part of processing. Retrospective sensitizing of those collections under the supervision of a Department will be the responsibility of that Department. Current Periodicals & Documents are the responsibility of the Reference Department. Collections (designated as "high risk" classes) in open stacks will be sensitized by students hired to do the work, supplemented by students already on the staff as they become available or are needed. Coordination of Stack Operations will be under B. Wright who will hire, schedule and review the student's work.

C. Who will be responsible for instruction in the Departmental Collections?

In the Public Services Division, instructions will be given by the

Assistant Director, Barbara Wright, and Mr. John Maiden of 3M. After the initial round of instruction, repeats or additional information should be arranged for or asked of Miss Wright.

D. When will the "sensitizing" begin?

Periodicals, new publications and several departmental collections have already been sensitized.

The first pass at the larger task of sensitizing stack collections should begin on or about 21 May 1973 with a target date for completion being 14 August 1973.

Sensitizing will be an ongoing operation as new areas are designated by way of recommendation to the Assistant Director for Public Services. Departmental responsibility will decrease as new publications replace older ones.

E. When will the system be fully "activated."

It is hoped that we can activate the system before the end of May. The time will much depend on the clearance of procedures at the Circulation and Reserve Book Desks and the installation of electrical outlets, installation of 3M detection equipment and solving unforseen problems which may arise.

III. EXIT CONTROL

A. All individuals leaving the library must exit through the Tattle-Tape System.

1. Exception: Non-ambulatory individuals in wheel-chairs which are too large to go through the exit aisle. The books and briefcases, however, will be walked by attendant through the system and returned on the other side of the gate or turnstile.

B. Books and briefcases will be examined for proper date stamps until

further notice.

C. If the CHIME sounds, the gate or turnstile will lock.*

1. DURING PEAK PERIODS, the attendant will ask the individual in question to return to the Circulation Desk.

2. DURING SLACK PERIODS, the attendant will either ask the individual to return to the Circulation Desk or handle the situation in the following manner AFTER THE INDIVIDUAL HAS RETURNED TO THE CHECK POINT AND THE ATTENDANT HAS PRESSED THE RESET BUTTON.

a. Explain that something he is carrying has set off the system and whatever he is carrying must be reexamined.

b. To expidite: If the individual is carrying a brief case, take it and ask the individual to walk through the exit. If the chime does not sound, the problem is with the briefcase.

(1.) Examine all books whether a library property stamp is on it or not.

(2.) Look for periodicals which may have covers removed.

(3.) By process of elimination (each item should be passed through the system) the trouble should be located. If it is a book that circulates, request the individual to return to the Circulation Desk.

*The CHIME will sound and the gate will lock under the following circumstances:
a. Library property which is improperly desensitized during checkout.
b. Library property which has by-passed the Circulation Transaction.
c. A metal of a certain kind carried by or on an individual going through the system.

If item does not circulate or is a periodical, the attendant will point out the non-circulating status and retain the item(s).

(4.) If it is the individual, point out that there is something he has on him (or if a woman, in her purse) which is setting off the alarm.

(a.) Ask him to return to the Circulation Desk to talk to the person in charge or

(b.) examine or hold bag as individual goes through.

(c.) If he protests too much, ask for identification (most frequently an I.D. Card, driver's license, social security card, or anything official), note name, and other information on log.

(5.) Let him go.

POLICY AND PROCEDURE FOR SENSITIZING PERIODICALS IN THE CURRENT PERIODICALS SECTION.

I. A substantial number of titles have been identified as "High Risk" and are currently secured in vertical files at the Current Periodicals desk.* These titles will remain secure within the files and no sensitizing will be attempted at this time, allowing current security measures to act as a substitute.

A. Patrons must request the restricted titles from the attendant on duty.

B. Patrons must sign for these titles and leave their ID card or other form of identification at the Current Periodicals desk while using the periodicals.

C. The vertical files will remain locked when attendants are not on duty or are away from the desk.

II. Periodicals which remain on the open shelves but have had an erratic history of disappearances will be sensitized in the following manner:

A. A periodical that has a frequency of six times a year or less will have each issue sensitized.

B. A periodical that has a frequency of more than six times a year, except weeklies, will have every other issue sensitized.

C. Weeklies for which there is a double subscription, current year retention only, or appearing in microform will not be sensitized.

D. Weeklies which do not fall into the above categories will be sensitized according to the previous rate of loss (probably random sensitizing).

III. New titles will be sensitized at the discretion of the Current Periodicals supervisor following the procedures noted above.

*Attached is a list (List I) of these "High Risk" periodicals which will be retained in the vertical file cabinets.

List not included in general circulation.

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PROCEDURE FOR SENSITIZING THE GFL COLLECTION.

What is to be sensitized:

The GFL collection will be the control collection for Paley Library. All titles will be sensitized. An inventory will be made of the collection with those titles not accounted for noted. As books on circulation or other status are returned, they will be taped and added to record showing which have been sensitized. New books or new acquisitions coming into the collection will be sensitized by TSD.

Who will be responsible:

Head of the Cultural Services will set up a schedule and the record of sensitizing. She will use any available staff of her Department as needed.

When does the project start:

On or about 1 May 1973 with a target date for completion on/about 1 June 1973.

Where does one get the tapes and bayonets:

The Department Head or designate will draw supplies from Mr. Trautman in quantity to cover the amount estimated for daily use. No tape or bayonet should be left about in public areas. During break, supplies should be put away.

How to sensitize:

The rapidity with which the collection can be sensitized will be dependent on the dexterity of the individual sensitizing.

It is recommended:

1. Install tapes into books at the shelf.
   or
2. Remove books from shelf to table (one person could bring and return books to shelf, while another sensitizes.).

However way it is done, be sure to keep a record or progress which is to be reported weekly as to classification and number.

REPORT ON THE INSTALLATION OF THE ELECTRONIC SECURITY SYSTEM

JUNE 1975

MCMASTER

Electronic control systems were installed in Mills and the Innis Room with a view to increasing control over material leaving the library and to affecting eventual staff economies.

EQUIPMENT

A 3M Tattle Tape system was installed in Mills in October 1974. Equipment consisted of a double corridor system at the exit point at University Avenue; 2 sensitisor/desensitisor units at the Circulation Desk and 1 in the Undergraduate Reading Room.

There were considerable problems with the Mills equipment and much work was done by 3M staff and by our staff in running tests on the efficiency of the system. False alarms were high at first but are now at a more satisfactory level. Many false alarms were caused by briefcases and ring binders but tuning of the system has decreased these. Others were due to the changeover to new procedures. The Mills double corridor system is still under review.

A single corridor system and one sensitisor/desensitisor was installed in the Innis Room July 1974, and was working well by August 1974.

PROCEDURES

Procedures for dealing with false alarms and real alarms were drawn up and staff trained for the new system. Since at first quite a large proportion of the collection was not protected, the invigilators continued to check library material and personal belongings. With the books treated in the course of last year plus the additional material we plan on treating this summer, we should be able to rely more on the electronic system next year.

Circulation also had to adapt to the new routines, about one second being added to each transaction, (borrows plus returns) making over an hour a day's extra work for Mills Circulation Desk at busy times.

MATERIALS PROTECTED

As the extra help requested for this project was dropped from the budget, not as many books were protected as we would have liked. Staff from all sections gave what time they could spare to this project throughout the year and the following areas were treated.

cont...

MATERIALS PROTECTED (cont.) (Mills and Innis Figures)

Note there is some overlap among the different categories of books. These figures do not include the Science/Engineering Library.

1. Stacks books

During the summer of 1974 Stacks Staff treated about 15,500 volumes from the "most used titles list" run from the automated circulation system.	15,500	
Also treated were c1,000 art books considered valuable.	1,000	
Technical Services treated c20,000 new books from August to May.	20,000	
Total number of books treated from the general stacks collection	36,500	36,500

2. RESERVE BOOKS

During the summer the Invigilators and the Circulation Staff treated the material already on reserve and the Undergraduate Reading Room staff treated material going on reserve in the course of the year making ...	11,420 vols.	

3. REFERENCE

In the course of the year two of the invigilators treated the entire reference and bibliography collection.	17,500 vols.	

4. SERIALS

Some of the Innis staff came over and treated about one third of the serials collection - done in order of priority.	16,300 vols.	

5. DOCUMENTS

The invigilators are in the course of treating the documents collection.	8,000 vols.	

6. INNIS ROOM/BUSINESS LIBRARY

All books in the Innis:stacks collection (2,150) and the reserve collection (1,800) were protected.	3,950 vols.	
Total number of volumes treated other than Stacks	57,170	57,170
TOTAL		93,670

cont...

SUCCESS OF SYSTEM

Reader reaction has on the whole been good and staff at the exit point have maintained good relations with the readers.

There have been a number of times when unauthorised material has been prevented from leaving the library, in most instances reserve material. Readers involved in these incidents included two high school students and a mature student with the "Gospel According to St. John" in his pocket! To date there have been no second time offenders.

Reserve material has shown a considerable drop in lost books over the last year - 171 as opposed to 1,311 the year before or about 1.6% as opposed to 12%.

There have on the other hand been quite a few incidents of mutilation of books but hopefully that will die down as the system loses its novelty value.

Installation of the 3-M Tattle-Tape Book Detection System at the College Library

Installation of the Tattle-Tape System was scheduled for June 17th (mini-session) but was not completed until Summer Session, Tuesday, June 29th, 1976. The exit control consists of a double corridor sensing unit and two locking exit turnstiles. Four sensitizing/desensitizing book check units are in use; one at the first floor circulation desk, one at the third floor circulation desk, and two in the Reserve Book Room. Total cost of the installed system was $17,080.00. Remodeling for the system included removing the existing exit turnstiles, enlarging two charging counters and lanes in the Reserve Book Room, eliminating a third unused charging lane in the RB room, and electrical work at the first floor circulation desk and in the Reserve Book Room.

A special project staff of student assistants, supervised by Robert Hacker, was hired from April 12 thru June 26 to insert the Tattle-Tape strips in C.L. materials. They inserted approximately 50,585 strips at a cost of 9.8 cents per strip, and a total cost of $4,957.33. The student assistants worked a total of 1118.4 hours at a cost of $2,571.63 to complete the project. The following materials were tagged:

College Library Books 23,588

-All books in the special collections (Ethnic, Gaus, Rec Reading, Women's)
-All reference books, including the study hall dictionaries (with non-desensitizing strips)
-All books in the main collection that had circulated at least once in the past two years

Reserve Book Collection 24,405

-All titles with lost volumes
-All of the most heavily used items, determined by a computer program and author/title print-out (ADP Job JRB1674)

Unbound periodicals 2,592

-All issues of frequently stolen titles
-Random issues of remaining titles

Tagging of Reserve materials did not begin until June 1st in order to keep them fully available thru the end of the second semester final exam period.

On July 1st C.L. had a supply of 45,000 strips. In the future, all new Reserve books will be tagged by Reserve Acquisitions under the supervision of Jim Seals. Responsibility for tagging all other materials has been assumed by the Collection Development Team. All new C.L. books will be tagged under the supervision of Karen Nault, except for books for Rec. Reading which will be supervised by Margaret Myers. Whenever a C.L. or Reserve book is discovered thru the discharging process to be untagged, it will be routed to K. Nault to have a tag inserted. Periodicals will be tagged under the supervision of Lianne Marshall. All current issues of frequently stolen titles will be tagged. Issues of the remaining titles will be tagged on a

random basis: all issues checked in one day a week will be tagged, with the day of the week changing each week. Bound volumes of periodicals were not tagged during the special project. C.L. experienced a very low loss rate of these volumes in the past, probably due to the difficulty of concealing them in book bags, etc. If problems develop in the future, a program to tag these items will be needed. An on-going procedure for tagging college catalogs will also be needed. Plans are also being considered to tag materials in the Tape Center with a non-desensitizing label as soon as 3-M has it available.

Training was accomplished in four sessions. In a two hour period on April 8, Ron Tworek from the 3-M Company taught all available C.L. and Reserve Acquisitions staff how to insert the tags in books and periodicals. R. Hacker then instructed the student assistant project staff. By April 29th, non-desensitized materials from C.L. began activating alarums in area libraries. Book check units were therefore placed at First and Third floor desks and all staff was trained in sensitizing and de-sensitizing books as they were charged out (since no Reserve materials had been tagged at this point, book check units were not needed in the Reserve Book Room). The third step in the training consisted of Ron Tworek discussing with the staff their attitudes toward the system, how to handle patron questions, how to react to alarums, what to do in cases of system breakdown, etc. This was done on June 23d, just before the system was installed. Finally the servicemen who installed the system

demonstrated the operation of the lane control panels located behind the First Floor Desk.

The period of June 29th thru July 14th was designated as a testing period. Although book bags were not checked unless the alarum was activated, full lane coverage was maintained during this period to assist staff and patrons in adjusting to the new procedures. No system flaws were discovered and the changeover was accomplished very smoothly. As a result, two laborer positions were transferred to Memorial Library as of July 15th: Robert Hacker, full time, 12 month appointment, and Gary Larson, three-quarter time, 11 month appointment. In the future the two remaining watchpersons (Chris Butler, full time, 10 month appointment, and Rick Wittington, full time, 11 month appointment) will be scheduled at the lane only during periods of heavy exiting to assist the First Floor Desk attendant. This will help prevent the confusion and patron inconvenience that might result at such times if an alarum is activated and the person at First Desk is too busy to deal efficiently and effectively with the situation.

Although a long-term benefit expected from the system is a reduction in the loss of library materials, an even greater benefit has already been achieved: the positive atmosphere created by being able to stop checking book bags and personal possesions of library patrons and staff. On this basis it would be very valuable to examine the Reserve Book Room operation, since everyone using these book stacks must still surrender their personal possesions before they can enter the area. Adding a Tattle-Tape exit lane to that room would definitely create a more efficient and pleasant operation pattern for that heavily used and very important service area.

EVALUATION

EVALUATING THE EFFECTIVENESS OF AN ELECTRONIC SECURITY SYSTEM

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Abstract

This study updates a 1971 study that recommended the installation of an electronic security system in the Van Pelt Library at the University of Pennsylvania. A pre- and post-installation comparison of estimated loss rates is given. An analysis of costs and benefits using actual costs and benefits based on the new estimated loss rates is made. A discussion of factors affecting loss rate estimates and supposed benefits follows.

Introduction

The problem of providing users with efficient physical access to documents has become of major concern to librarians. Research in document delivery, user frustration, and manipulation of loan policies have demonstrated that physically accessible collections are fundamental in any consideration of library effectiveness. The problem of book theft, as an obstacle to physical access, has attracted much attention and considerable study.

The purpose of the present study was to update a 1971 analysis of the value of an electronic security system (ESS) for a library collection. The 1971 study was conducted at the Van Pelt Library of the University of Pennsylvania to determine the yearly loss rate for documents which were permitted to circulate. Based on these estimated loss rates a cost-benefit analysis was made to determine if the installation and operation of an ESS was justifiable. The results of this 1971 study appeared in Michael Bommer and Bernard Ford, "A Cost-Benefit Analysis for Determining the Value of an Electronic Security System," College and Research Libraries, July 1974.

Acting on the positive results of this analysis, the University of Pennsylvania Library administration installed an ESS in August 1974. Preparatory to the actual installation of the detection hardware, the Library had inserted detector pieces into new materials as they went through the processing departments and into older materials as they were returned to the circulation desk. Thus all materials acquired since early 1974 as

well as popular, i.e., circulating, and reference materials have alarm pieces.

With the system in operation for just over two years, the present study was undertaken to assess the impact of an ESS on the loss rate of protected materials. As a by-product of this effort, a loss rate for the entire collection was estimated using the techniques of the 1971 study.

Methodology

The method used to determine the loss rate of recently acquired, protected documents and to estimate the loss rate for the circulating collection closely follows the second method outlined in the 1971 study. This method is based on certain assumptions and sample data collected at a particular point in time. In summary, the assumptions are 1) that the loss rate for documents correlates with the publication date of documents, 2) that the loss rate in the immediate past has been constant, 3) that the loss rate for the group of most recently acquired documents (1974 on) is similar, 4) that the number of documents lost from a set acquired in a particular year is a direct function of the length of time these documents have been on the shelf and finally, 5) that the document loss rate is in direct proportion to the use rate.

The loss rate estimates were derived as follows: An estimate was first made of the number of circulating documents in various publication classes by drawing a random sample from the shelflist[1] and coordinating the proportions of cards in the sample classes with the estimated number of circulating shelflist cards.[2] A second sample of the shelflist was taken to obtain a sample of documents acquired in 1974 and 1975. A search was conducted for these documents to determine the number unaccounted for and presumed lost. The results appear in Table 1. Following the Bommer/Ford assumptions a calculation was made to estimate the yearly rate at which these most recently acquired documents are being lost.

Estimated yearly proportion of documents lost
for the most recently acquired documents (1974, 1975) =

$$\frac{10/\ 2\ +\ 11/\ 3}{849} = .0102$$

A yearly document loss rate for each publication date class was then computed by first computing the circulation rate of documents in each date class relative to Class I (e.g., the circulation rate of Class II divided by Class I is .00659/.00595=1.108) based on a one-week sample of circulation data (column 3, Table 2). Then these relative circulation rates were used to estimate the annual document loss rates for each Class. Thus, if documents in Class I are being lost at the rate of .0102 per year (as determined above) then Class II documents are being lost at the rate of (.0102) (1.108) = .0113 per year. These annual document loss rates are shown in column 7 of Table 2.

Finally, the annual loss rates for each class of documents is multiplied by the estimated number of documents in each publication date class. This yields an estimate of the annual number of lost documents and is shown in column 8 of Table 3. Summing this column indicates that the estimated number of documents lost from the Van Pelt collection during 1976 is 7,488. However, based on reported lost books searched for by library staff, approximately 13% of lost documents eventually turn up. Thus, 7,488 - (.13)(7,488) = 6,515 documents are apparently lost as a result of theft.

Conclusions

Perhaps the most reliable comparison that can be made between the two samples is the loss rate of the most recently acquired documents. This comparison comes closest to the One-Group Pretest-Posttest Design outlined by Campbell and Stanley[3] and is, of course, subject to the problems outlined by them. In 1971, the loss rate of the most recently acquired

documents was estimated at .0228 per year while in 1976 the estimated rate had dropped to .0102--a reduction of approximately 55 per cent. Further, the estimated loss rates for the circulating collection as a whole dropped 39 per cent; from .0079 in 1971 to .0048 in 1976.

Cost-Benefit Analysis

The 1971 analysis of costs and benefits anticipated a 90% reduction in the loss rate due to the ESS. The present study shows that estimate to be overly optimistic. Nevertheless, an analysis of actual costs and benefits clearly demonstrates the beneficial impact of the ESS. A summary of costs actually incurred for the purchase and operation of the ESS in Van Pelt Library is:

Initial One-time Costs:

Purchase and Installation	$11,622
Detector Pieces	19,986
	$31,608

Annual Costs:

Detector Pieces	$ 7,894
Maintenance	523
	$ 8,417

The analysis of benefits to the library is based on cost saving estimates derived from the ongoing lost book replacement program in Van Pelt Library. For these cost/benefit calculations, one refinement in the earlier study has been attempted; the number of books assumed stolen has been separated from the total population of lost books which also includes books borrowed and not returned.

To determine the number of documents that would have been stolen had the ESS not been installed, we applied the 1971 collection loss rate to the 1976 estimate of the number of documents in the collection. This yields (.0079) (1,347,053) = 10,642 documents that might have been stolen without the ESS. The difference between this number and the 1976 estimate of lost

documents, (10,642-7,488), gives 3,154 documents presumably not lost because of the ESS.

Naturally not all of the estimated lost books come to the attention of the library staff and become candidates for replacement. In the most recent full year, the library actually replaced only 864 books that were lost as a result of theft. This is approximately 12% of the 7,488 books estimated as stolen during 1976. If the Library did not have an ESS, then presumably 12% of 10,642 documents or 1,228 books would have had to be replaced during the same period. Thus the library avoided replacement of (1,228-864) or 364 documents. The average total cost of searching, evaluating, and replacing a stolen book over the last full year was $22.63. Consequently the library avoided spending ($22.63) (364) or $8,237 because of the ESS.

The Benefit/Cost calculation used in the 1971 study is duplicated here with changes in only those values that reflect actual operational experience. The subjective values associated with estimated benefits to the Library (L) and estimated benefits to the User (U) as well as the time frame for consideration are carried over without change from the 1971 study for purposes of comparison; i.e., L+U = $10,000, n = 15). The Benefit/Cost Ratio is then:

$$\frac{B}{C} = \frac{\sum_{r=1}^{n} (8,237+L+U)}{\$31,608 + \sum_{r=1}^{n} (8,417)} = \$1.73$$

A breakeven analysis shows the pay-back period to be 3.2 years. The B/C ratio and pay-back period compare favorably with the 1971 values particularly in light of the high degree of effectiveness that was anticipated for the ESS in the preliminary study.

Discussion

As mentioned above, subjective values were retained in the calculation of B/C and payback for purposes of comparison with the earlier study. However, this leaves out several important factors in the present analysis that result in a conservative comparison. For instance, it seems that benefits to the Library and the user are larger than estimated in 1971. The ESS has, in its physical presence alone, a public relations value by proclaiming to the community that the library is actively taking steps to prevent book loss. A similar message is conveyed to staff members, particularly the door guards, who now have an effective control tool, and the stacks personnel, who appreciate the efforts at protecting the collection. In addition, the user is rewarded by a higher success rate in recovering the popular material that might otherwise be stolen. Raising the value of L and U would, of course, increase the $1.73 B/C ratio.

In addition to these subjective factors affecting the valuation of the ESS, there are many factors that affect the critical estimate of the loss rate that cannot be identified in a study such as this--collection policies, course requirements, student population, user attitudes, staff thoroughness, etc. Two factors should be mentioned that seem to impact on the loss rate more directly. First, is the percent of the collection outfitted with detection pieces. In a large collection, such as the University of Pennsylvania's, it is prohibitively costly to alarm the entire collection. With only a portion of the books alarmed, a burden is shifted back onto the thoroughness of exit checks. Moreover, the user population could, with some effort, discover which volumes are alarmed and which unprotected, and concentrate their efforts on stealing these. Essentially this problem is a variation on the truism that determined thieves can beat the system, electronic or otherwise.

For the purpose at hand, the second factor, the circulation rate, may be even more important. Over the five year period between studies, a dramatic increase in circulation activity occurred. In the two areas examined in this study--most recent acquisitions and the whole collection--both experienced a heavy rise in demand. In 1971, the circulation rate of most recent acquisitions was 2.415 per 1,000 documents while in 1976, it was 5.949 per 1,000 documents. This is an increase of more than 240 per cent. As a whole, the collection had a circulation rate of .97 per thousand documents in 1971. In 1976, despite a large increase in the population of circulating documents, the rate had soared to 3.18 documents per thousand--a rise of more than 320 per cent. Believing that book loss and book use are correlated directly, it is justifiable to assert that the ESS has had a positive effect in limiting the increase in book theft that circulation rates would lead one to expect.

Summary Results

The effects of an ESS on the Van Pelt Library Collections were to reduce the loss rate of most recently acquired items by 55% and reduce the overall collection loss rate by 39%. For every dollar the ESS has cost, approximately $1.73 in benefits have been received. At this rate, the system will be paid for in 38 months.

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TABLE 1

SAMPLING OF DOCUMENTS LOST:

September - October, 1971*			September - October, 1976		
Document Date	Number of Documents in Sample	Number of Documents Lost as of Sept/Oct 1971	Document Date	Number of Documents in Sample	Number of Documents Lost as of Sept/Oct. 1976
1971	313	5	1975	332	10
1970	388	7	1974	517	11
1969	365	17	TOTAL	849	21
1968	325	14			
TOTAL	1391	43			

*From Bommer & Ford, CRL, July, 1974.

(1) Class of Documents	(2) Class Publication Dates	(3) Number of Documents Borrowed in 1-week Period	(4) Estimated No. of Documents in Class	(5) Weekly Circ. Rate of Documents X 10^{-3}	(6) Circ. Rate of Documents Relative to Class I	(7) Est. Proportion of Documents Lost in 1-Year Period	(8) Est. Number of Documents Lost in 1-Year Period
I	1974 - 75	468	78,669	5.949	1.0000	.0102	802
II	1971 - 73	710	107,716	6.591	1.1080	.01130	1,217
III	1966 - 70	1016	146,445	6.938	1.2639	.01289	1,888
IV	1960 - 65	694	162,179	4.279	.7193	.00734	1,190
V	1950 - 59	487	148,866	3.271	.5499	.00561	835
VI	1940 - 49	235	95,613	2.458	.4131	.00421	403
VII	1920 - 39	338	180,333	1.874	.3150	.00321	579
VIII	1900 - 1919	192	203,329	.9442	.1587	.00162	329
IX	1870 - 1899	80	113,767	.7031	.1181	.00120	137
X	1700 - 1869	63	110,136	.5720	.0962	.00098	108
			1,347,053				7,488

TABLE 2

Number of Documents Lost from Collection During a One-Year Period
as Estimated Using Data Collected at a Single Point in Time: September-October 1976

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References

1. The sampling technique used relies on the technique explained in Fussler, Herman and Julian Simon, Patterns in the Use of Books in Large Research Libraries (Chicago: University of Chicago Press, 1961) p. 151.

2. Formula I

   (1) TOTAL SHELFLIST INCHES X 100 = TOTAL SHELFLIST CARDS

   (2) $$\text{TOTAL SHELFLIST CARDS} \times \frac{\text{CIRCULATION CARDS IN SAMPLE}}{\text{TOTAL SAMPLE CARDS}} = \text{ESTIMATED CIRCULATING CARDS}$$

   (3) $$\frac{\text{ESTIMATED CIRCULATING CARDS (a constant)}}{\text{CIRCULATING CARDS IN SAMPLE (a constant)}} \times \text{NUMBER OF SAMPLE DOCUMENTS IN EACH CLASS} = \text{ESTIMATED NUMBER OF DOCUMENTS IN EACH CLASS (column 4, Table 2)}$$

3. Campbell, Donald T. and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally, 1963).

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TEMPLE

October 24, 1975

Mr. John Maiden
7070 Kaighn Avenue
Pennsauken, New Jersey 08109

Dear Mr. Maidan:

These are the statistics on inventory losses before and after Tattle-Taping that we have readily available:

Leisure Reading Collection, Paley Library

Volumes accounted for	May 1973	T.T *	June 1975
	7362		9251
Volumes missing	489		273
Total volumes searched	7851		9524
Per cent missing	6.23%		2.87%

Technology Library, Stauffer Hall

	1972	T.T.*	1974	1975
Collection size	5650		8300	9200
Loss (volumes)	192		34	42
Per cent loss	3.4%		.41%	.45%

Ambler Campus Library

	July 1974	T.T.*	July 1975
Collection size	32,000		35,000
Total losses (volumes)	426		134

I cannot really give percentage figures for Ambler because there is no record of when the count of the collection size was made. The number of volumes may have been counted after the missing books were withdrawn from the records. But the figures give an accurate picture of diminished total losses.

* Tattle-Tape strips installed

Very truly yours,

July 1975

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AMBLER CAMPUS LIBRARY INVENTORY LOSSES

	Dropped (o.p. or not wanted)			Replaced			Total Losses			
	titles	volumes	value	titles	volumes	cost of replacement	titles	volumes	value & cost	
1970-71	75	121	$ 900 est.	299	307	$2,186	374	428	$3,086	Before
1971-72	96	115	$ 862 est.	278	295	$2,064	374	410	$2,926	T-Tape
1972-73	83	115	$1076 est.	309	323	$2,082	392	438	$3,148	
1973-74	98	129	$1290 est.	285	297	$2,249	383	426	$3,539	
1974-75	10	31	$ 496(@$16)	94	104	$ 936 *	104	134	$1,432	after Tattle T.
									$14,131	

* 86 ordered 7-2-75 - $873
8 ordered 10-15-75 - $ 63
94 $936

94

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TEMPLE UNIVERSITY
OF THE COMMONWEALTH SYSTEM OF HIGHER EDUCATION

INTER-OFFICE COMMUNICATION

Date July 16, 1974

To Mr. J. L. Gotlobe, Assistant Director
Public Services Division

From Cornelia Tucker
Cultural Services Librarian

Subject: Preliminary report on the June 1974 inventory of the Leisure Reading Collection.

A rough breakdown of the Leisure Reading Collection giving the number of volumes and missing in each area is attached. The overall figures for the inventory are:

Volumes accounted for	8703
Volumes missing	230
Total volumes	8933
% of total volumes missing	2.57%

For comparison, the original figures for the May 1973 inventory were:

Volumes accounted for	7362
Volumes missing	489
Total volumes	7851
% of total volumes missing	6.23%

The most recent figures for the inventory show that 360 volumes, or 4.58% are still missing. Since the Leisure Reading collection was inventoried in July 1972, the figures of 489 books missing in 1973 and 230 missing in 1974 are comparable. It seems safe to say that Tattle-Taping the Leisure Reading Collection last year is responsible for the reduced book-loss rate.

CT:jf

FORM 66A

USER EDUCATION

LIBRARY RIP-OFFS

A Report on the Exhibit Committee's Fall 1976 Exhibit

American academic libraries are experiencing what the Chronicle of Higher Education (Aug. 9, 1976) has referred to as a "national crime wave," manifested by the astonishing increase in both the theft and mutilation of books and periodicals. The University of Massachusetts/Amherst Library is no exception. Based on a collection survey conducted by staff member, Sam Markson, in 1973-74, it was found that 6% of the Library's book collection (including Morrill and Physical Sciences) was missing, although these volumes may actually represent as much as 20% to 25% of that part of the collection in highest demand. In the Main library alone, replacement costs for this 6% would total some $600,000 based on calculating a standard $15.00 replacement and processing cost per volume.

A similar survey to estimate the extent of periodical and book mutilation has not been attempted, but a sample of interlibrary loan requests for July 1975 - January 1976 produced an equally disturbing picture of the extent of known mutilation in the Main library's collection. Based on this sample, the projected total costs for the replacement of missing pages (and the provision of copies to readers needing them) would be almost $4,300 for Fiscal Year 1976. This figure, of course, reflects only the costs of replacing pages known to have been torn out, and those known to be in demand by other readers. The figure does not reflect the actual extent of the problem, nor does it reflect the cost of tipping-in photocopies or rebinding entire volumes once replacement pages have been obtained.

In view of these alarming statistics, the Library Exhibits Committee decided to mount an exhibit to educate the University community about the problem of theft and mutilation of the University Library's collections. Since library users are forced to deal with this problem every semester, the Committee tried to focus the exhibit on the three areas which stressed the extent of the problem and the impact which it has on the entire University community: (1) the cost and time involved in the replacement of stolen or mutilated materials; (2) the effect of theft and mutilation on other readers and (3) the efforts of the University Library to provide alternatives to stealing or mutilation and to aid the victims.

The early work of the Exhibits Committee[1] was to define specific areas of the problem which could be presented visually, and to begin to collect both

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[1]Exhibits Committee, June 1, 1975-May 31, 1976: Benton Hatch, Special Collections (Chairperson); Jeanne Kocsis, Bibliography; Edla Holm, Reference.

Exhibits Committee, June 1, 1976-May 31, 1977: Suzanne Hatfield, Reference (Chairperson); Benton Hatch, Special Collections; Jeanne Kocsis, Bibliography (June 1, 1976 - January 16, 1977); Eric Esau, Reference; Pauline Collins, Technical Services; Melinda McIntosh, Reference (January 16 - May 31, 1977).

examples of the problem and information on costs and procedures. By late Spring 1976, the following problem areas had been outlined: missing books, missing issues of periodicals, missing pages of books, and missing pages of periodicals. The Committee later decided to include also materials covering the University Library's efforts to combat the problem, examples of the effects of mutilation and theft on two specific subject areas, and an example of the effect of systematic mutilation of multiple copies or multiple editions of a work held in the collection.

Each Committee member assumed responsibility for assembling information and materials pertaining to one or more of these problem areas for presentation in one exhibit case. Both the Interlibrary Loan Department and the Circulation Department helped in accumulating examples which came to their attention. Interviews were arranged with Bibliography, Acquisitions, Information Processing, Interlibrary Loan, and Circulation Services staff to gather information on procedures and costs involved in replacing stolen or mutilated materials. What resulted after nine months of cooperative effort was an exhibit whose highlights are presented below.

Several recent studies have shown that students' erroneous assumptions about both the cost and the time involved in replacing stolen or mutilated materials have been important factors contributing to the increase of the problem across the country. Because of this, the Committee felt it important to present actual figures reflecting the cost to this Library of replacing materials during one fiscal year, while also detailing as much as possible the web of procedures necessary to acquire and to process the material. This was done to dispel what library literature has shown to be the prevalent belief that the University Library can simply dispatch someone, cash in hand, to a local bookstore or newstand to replace the needed material, whether it be last week's Newsweek or a 1954 copy of the Journal of the American Medical Association.

In four exhibit cases, the problems, procedures, and costs of replacing missing or mutilated materials were illustrated by such compelling examples as a book through which a perfectly symmetrical hole had been burned with a high intensity lamp, and a copy of U.S. News and World Report which consisted only of its cover. Examples in the case illustrating the problem of periodical mutilation were deliberately chosen to point out that not even the University Library's more scholarly material is immune to the problem. Three volumes from the Library's collection of law reviews were selected; in one case, the removal of a 75-page article had destroyed the binding of an entire volume. Total replacement and repair cost for this volume: $47.00.

Similar figures spoke loudly for themselves:

--In FY '76, $24,110 was spent for book replacements and $6,095 for replacements of periodical issues; these figures represent 3% of the total acquisitions budget.

--$4,300 more was spent through Interlibrary Loan for the acquisition of pages torn from books and periodicals.

--Rising interlibrary loan charges coupled with the increased cost of library staff time have made it conceivable that the acquisition of one page of photocopied material could cost as much as $11.15 in direct and indirect charges.

--The replacement cost of a single periodical issue may be as much as $35.00.

The Committee showed what this problem means, not only in terms of impersonal facts and figures, but also in terms of the effect it has on other readers. To do this, the Committee surveyed available book and periodical material in two areas of recent high student interest: abortion and art education.

Using two bound volumes of the Reader's Guide, a biblicgraphy of about 50 articles on abortion was compiled, which was then checked against periodical volumes in the University Library. Nine articles (18% of the total number) had been ripped out and several others had already been replaced by photo-copied pages. One entire 1973 issue of Christian Century, containing two articles on abortion, was missing from the bound volume.

A survey of available book material in art education was conducted, beginning with the shelf list. Seventeen percent of the collection had already been designated permanently missing from previous inventories before a search of the shelves was made. Additional volumes neither on the shelf, nor located in the circulation system, raised the percentage of volumes not available to 32%. Adding those volumes charged out, but overdue more than one year, raised the percentage of the material unavailable to 44%.

The most eloquent example, however, and one which occupied an entire exhibit case, portrayed the plight of a student searching in Shepard's Historical Atlas for a map of the German states before and after the French Revolution. This map had been removed from seven copies of this work published between 1921 and 1964.

In view of the overwhelmingly negative picture being presented by such a compilation of material, the Committee decided to emphasize the positive role of the University Library in attempting to solve the problem. Included were photographs picturing the use of easily accessible and inexpensive photocopying facilities for both book and microform materials, reels of microfilm representing the expansion of periodical backfiles on microfilm, and a current copy of the serials want list, representing the continuing effort to locate replacements of stolen periodical issues.

While working on the exhibit, the Committee members felt varying degrees of rage and despair when faced with the enormity and pervasiveness of the problem on one hand, and with the not infrequent sense of encountering both deliberate and capricious destruction on the other. The worst examples of both irreparable damage (the systematic removal of Winslow Homer engravings from volumes of Harper's), and of the seemingly senseless mutilation of material (the removal of various illustrations from the microfilm copy of the New York Times), could not be exhibited for fear of encouraging the repetition of such acts by others. It was felt that the problem was compelling enough in the chronicling of the smaller horrors without resorting to these.

The response of the University community to the exhibit was very encouraging, and it has been suggested that a similar exhibit be mounted every year. Unfortunately, there is no sign that the availability of pertinent material is likely to decline for several years to come.

--Suzanne Hatfield
Reference Librarian

CLUSTER UNDERGRADUATE LIBRARY
UNIVERSITY OF CALIFORNIA, SAN DIEGO C-075
LA JOLLA, CALIFORNIA 92093 (714) 452-3066

SAN DIEGO

ABOUT CLUSTER'S NEW EXIT PROCEDURE

The new book detection system at the exit is there so you will be able to find the books you want on our shelves. With it, you can leave the library without having to submit to inspection -- an unfortunate necessity in this era of "missing books." The system is able to sense our library materials carried in briefcases, book bags, purses, etc., so there is no need to carry them separately. The system "sees" only Cluster Undergraduate Library materials -- not people or personal belongings.

Mechanically, the way the system works is that our books and other materials are desensitized at the time of checkout so they can pass freely through the detection zone. Items not checked out properly will activate a chime and cause the exit gate to lock.

In addition to avoiding the need for personal inspection at the exit, the system is designed to eliminate theft and/or the effects of occasional forgetfulness. Book loss through theft is a problem of alarming proportions in all libraries, including Cluster. Theft has seriously eroded our limited book budget due to the high cost of replacements. Theft has also hampered service by making books unavailable when you need them.

We believe the new system will benefit you by improving your chances of getting the book you seek.

Your comments are invited; please use our suggestion box or contact me directly.

Thanks, Marc

Marc Gittelsohn
Undergraduate Librarian
452-3066

HAWAII

IT IS ILLEGAL TO CUT OR DESTROY LIBRARY MATERIAL

HAWAII REVISED STATUTES 753-4

VIOLATORS WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW

Photocopying costs you 5¢ a page. It costs us $10 - $15 to repair or replace each mutilated item and it takes months.

(and not everything can be replaced)

(5½" x 8½" notice, printed on light weight card stock, posted at regular intervals in all open stacks. University of Hawaii Library, 1977.)

MICHIGAN STATE LAW

FOR

MICHIGAN

PROTECTION OF LIBRARIES

¶Am. 1911, Aug. 1, Act 58, Section 1. Any person who shall wilfully, maliciously or wantonly tear, deface or mutilate, or write upon, or by other means injure or mar any book, pamphlet, map, chart, painting, picture, photograph, periodical, newspaper, magazine, manuscript or exhibit or any part thereof belonging to or loaned to any public library, or to the library of any literary, scientific, historical or library society or association, whether incorporated or unincorporated, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a FINE of not less than two dollars nor more than one hundred dollars, or by IMPRISONMENT in the county jail not more than sixty days in the discretion of the court; and all justices of the peace in their respective counties shall have jurisdiction to hear, try and determine all prosecutions under this act.

¶14692. MISAPPROPRIATION—PENALTY. Am. Ib. Section 2. Any person who shall procure, or take in any way from any public library or the library of any literary, scientific, historical or library society or association, whether incorporated or unincorporated, any book, pamphlet, map, chart, painting, picture, photograph, periodical, newspaper, magazine, manuscript or exhibit or any part thereof, with intent to convert the same to his own use, or with intent to defraud the owner thereof, or who having procured or taken any such book, pamphlet, map, chart, painting, picture, photograph, periodical, newspaper, magazine, manuscript or exhibit or any part thereof, shall thereafter convert the same to his own use or fraudulently deprive the owner thereof, shall be punished by a FINE not to exceed one hundred dollars or by IMPRISONMENT in the county jail not more than three months in the discretion of the court.

¶Section 3. A printed copy of this act shall be posted in at least three conspicuous places in such library. :: :: :: :: :: :: ::

SECURITY PROCEDURES AND POLICIES

ASSOCIATION OF RESEARCH LIBRARIES

Access to Original Research Materials in Libraries, Archives, and Manuscript Repositories

1. It is the responsibility of a library, archive, or manuscript repository to make available to qualified researchers, as defined by their respective institutions, on equal terms of access, research materials in its possession unless prohibited by the regulations of the institution. Because the accessibility of material depends on knowing of its existence, a repository should inform researchers of the collections in its custody by means of a public catalog, inventories, other finding aids, published guides, and reports to the National Union Catalog of Manuscript Collections where appropriate. Staff members should assist researchers as freely as possible but should not be expected to engage in extended research.

2. To protect and insure the continued accessibility of the material in its custody, the repository may impose several conditions, which it should publish or otherwise make available to users.

a. The repository may restrict use of fragile or unusually valuable materials. In such cases it should make available suitable reproductions whenever possible.

b. All materials must be used in accordance with the regulations of and under the supervision of the repository. Each repository should publish and furnish to potential researchers its regulations governing access and use. Such regulations must be equally applied and enforced without differentiation based on institutional affiliation.

c. The repository may refuse access to unprocessed materials.

d. Normally, a repository will not send research materials for use outside its building or jurisdiction. Under special circumstances a collection or a portion of it may be loaned or placed on deposit with another institution.

e. The repository may refuse access to an individual researcher, who in the opinion of the staff, has demonstrated such carelessness or deliberate destructiveness as to endanger the safety of the material, or who has refused to comply with the regulations of the repository.

f. A repository may withhold material which, in its judgment, would constitute an invasion of privacy or result in damage to living persons if made available.

g. As a protection to the collections, a repository may reasonably require acceptable identification of any person wishing to use its materials, as well as a signature indicating they have read a statement defining the policies and regulations of the repository.

3. Each repository should make available to researchers a suggested form of citation crediting the repository and identifying items within the collection for later reference. Citations to copies of the originals which are in other repositories should include the location of the originals, if known.

4. A repository should advise the researcher that he and his publisher have the sole responsibility for securing permission to publish from unpublished manuscripts in which literary property rights are retained or to publish any extensive quotation from copyrighted works. Manuscripts cannot be used for publication without due regard for common law rights, literary rights, property rights, and libel laws. The user assumes legal responsibility for observing these rights. A repository, if asked, should inform the researcher about known retention of literary rights.

5. A repository should not deny access to materials or grant exclusive use of materials to any person or persons, or conceal the existence of any body of material from any researchers, unless required to do so by law, donor, purchase stipulations, or other compelling factors.

6. A repository should not charge fees for the noncommercial use of its collections.

7. Repositories are committed to preserving manuscript and archival materials and to making them available for research as soon as possible. At the same time, it is recognized that every repository has certain obligations

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to protect confidentiality in its records in accordance with law and that every donor has the right to impose reasonable restrictions upon his papers to protect confidentiality for a reasonable period of time.

a. It is the responsibility of the repository to inform researchers of the restrictions which apply to individual collections of record groups.

b. The repository should discourage donors from imposing unreasonable restrictions and should encourage a specific time limitation on all restrictions.

c. The repository should periodically reevaluate restricted records and work toward providing free access to material.

November 1974

Reproduction of Manuscripts and Archives for Noncommercial Purposes

1. It is the responsibility of a library, archive, or manuscript repository within the limits of its resources to assist qualified researchers, as defined by their respective institutions, by making or having made reproductions of any material in its possession, subject to certain conditions.

Manuscript and archival materials may be reproduced if:

a. the condition of said materials will permit such reproduction without damage.

b. said materials have no gift, purchase, or legal, or other type of restrictions on reproduction.

2. In the interest of making research collections more generally available, the orderly microfilming of entire manuscript collections together with appropriate guides, within the provisions of law, is to be encouraged. Also in the interest of making manuscript items available to researchers, the custom and practice among libraries of making one "fair-use" copy of a manuscript that is not otherwise restricted are to be encouraged to the fullest extent permitted by law.

3. A repository has the right to refuse to furnish copies or do extended research in response to requests which require an unreasonable amount of time with respect to the priorities of the respositories.

4. The price of reproductions shall be set by the repository.

5. Copies should be made for the use of individual researchers and educational institutions as follows:

a. Repositories which permit their manuscript and archival collections to be reproduced in whole or part must specify before the copies are made what restrictions, if any, have been placed on the use of the copies. Purchasers must abide by these restrictions.

b. All reproductions must identify the source of the original manuscript collection or archival record group.

c. Copies of reproductions should not be made for a third party by the owner of a reproduction without the written permission of the repository owning the originals.

6. In order to insure that proper credit is given to institutions and that references to original materials are maintained, researchers are expected to cite the source of original manuscripts and archives in their published work. Manuscripts, or reproductions of them, cannot be used for publication without due regard for copyright, legal restrictions, and the regulations of the repository. The researcher assumes legal responsibility for observing these rights. A repository should inform the researcher about known retention of literary rights, as well as other known restrictions.

November 1974

Condition: Deliberate and obvious attempt to conceal library material(s) on the person or in personal property with the intentions of removing the material(s) without proper charging out.

Call the Circulation supervisor on duty immediately. Turn the materials and person over to him and report the circumstances and response of the person caught. The supervisor will fill out a written report.

If the incident occurs after the closing hour of the circulation department, you must fill out the report yourself. Insist on seeing proper identification. If the suspect refuses to provide such identification, call our Security Police (4343) and turn the case over to them.

On the report, be sure to record the full name, local address, ID number of the suspect, exact details on the material involved (author, title, call no., book no. or journal title, volume and no.).

Also record exactly the details of how the library property was discovered and what the verbal reaction of the suspect was.

Impress upon the person the serious of the offense (see next page for the policy in effect concerning attempted theft) and inform them that they will be contacted by the Librarian or Associate Librarian very soon.

Write the code number "4" on the exit statistics sheet next to the time the incident occured, and if it was turned over to a supervisor indicate his name as well.

Report of Attempted Theft of Library Materials

Date: _____

Name of Person Involved: _____ Time: _____

Address: _____

_____

Phone Number: _____

Identification Confirmed by:

Current Student I.D. _____ Name of School: _____

Driver's License No. _____ State _____

Credit Card No. _____ Kind _____

Other: _____

Exit Guard _____

Supervisor on duty: _____

Description of Incident:

Where was material concealed: _____

_____

_____

Exact description of item(s) (call number, accession number, author, title, volume and issue number.....)

_____

_____

_____

_____

General attitude and reaction of the person: _____

_____

_____

Comments made by the person: _____

_____

_____

_____

Witnesses (names, addresses, phone numbers)

_____

_____

_____

* * * * * * * * * *

The person and this report should be sent at the time of the incident to the Associate Librarian or University Librarian if either of them are available. Otherwise, turn in the report to the Administrative Office at the beginning of the first day the Office is open following the incident.

Disposition of case: Seen by: _____ On _____
(Date, Time)

Comments on the interview: 197

Action taken: 097

INSTRUCTIONS TO GATE MONITORS HAWAII

As a member of the staff of gate monitors, it is extremely important that you be completely familiar with all library regulations. The main reason for your job is to see to it that these regulations are followed by the library's clientele. The following instructions are intended to accomplish this purpose with the necessary tact and firmness to maintain respect for your position by all who use this library.

1. No exceptions. All persons leaving the lobby area, whether students, faculty, library staff, or members of the public, should be checked. If our control system is to be successful it must apply one hundred percent of the time to one hundred percent of the library's users.

2. What to do. Open all books to the date due slip and assure that the last date on that slip falls within the regular charge period. Any overdue books should be confiscated. Before returning these books to the borrower be sure that any other books that he may have in his possession are not library books. This will involve a good look into his briefcases, packages, and bags which the borrower may be carrying. If no books or library materials are visible, close the library books which you have on your desk and return them to the borrower with thanks. He is then free to leave the building. It is advisable to watch with particular care for current issues of magazines. They are slashed with a green felt pen across the edges.

   Should a borrower refuse to cooperate with you in any way, don't argue with him. All arguments and complaints should be directed to a regular member of the library staff.

University of Hawaii Library,
Circulation Division, 1977

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Try to stop anyone leaving without having their books checked. But do not resort to physical acts or violence. If you can't stop the person then try to remember his appearance. When his identity is firmly established we will pursue the matter with him.

3. Relations with borrowers. As a gate monitor your job is to enforce the library's regulations in a manner which is tactful, firm, and rapid. A liberal sprinkling of "please's" and "thank you's" will make your job much easier. Even under provocation you are to maintain your own dignity and to try, insofar as possible, to see to it that the borrower does not lose his. There will be rush periods during which it is extremely difficult to do a thorough checking job. At these times it is not so important that you have actually checked all items carried by the borrower, but that you appear to have done so.

4. Relief. During the day it may be necessary for you to leave your post before your replacement arrives. If you must leave your post for a short time during the regular work period, you must call Room 5 for a monitor to fill your position until you return.

5. Other duties. Before going on duty, go down to Room 5 and see if there is any work you can do at the gate to help those downstairs. When the desk monitors are especially busy, you will be asked to file the one hour charge cards.

University of Hawaii Library,
Circulation Division, 1977

NATL. AGRICULTURAL LIB.

January 24, 1977

STACK PASSES

An application for a stack pass may be approved (signed) by any employee of Utilization Section who is on duty at the Circulation Desk in the lobby.

Approval should be granted when the requester meets one or more of the following requirements:

1. Patron needs to examine more than 10 publications.
2. Patron needs to lock through long runs of serials.
3. Patron needs to examine related materials in same or similar call numbers.
4. Patron has made arrangements with Photo Lab to pull material and do own copying.
5. Patron has continuing need to examine extensive amounts of material(pass may be assigned for extended time period).

Stack Passes will not be granted to local (Washington metropolitan area) university undergraduates. However, any patron (including university undergraduates) from outside the Washington metropolitan area who meets one or more of the above requirements may be granted a temporary stack pass.

Any questions regarding the issuance of stack passes should be referred to Ron Young, Supervisory Library Technician, or Jennie Brogdon, Head, Utilization Section.

Patricia A. Condon

Patricia A. Condon
Chief, Lending Division

THE NEW YORK PUBLIC LIBRARY

NEW YORK PUBLIC LIB.

MEMORANDUM TO THE STAFF: April 17, 1973

Position Open: Senior Investigator (Bibliographic)

Business Manager's Office

Available: Immediately

Hours: 35 hours per week. Schedule varies. Some evening hours. 24 hour emergency call.

Salary Range:

A staff member now paid within this salary range may transfer without loss in pay.

Eligibility Requirements: College graduation preferred. At least four years of experience in an investigator position or an equivalent combination of education and experience. Knowledge of Library regulations and City and State laws applicable to investigative work in the Library. Knowledge of Library materials and the book market, particularly relating to valuable and rare items. Other skills and abilities pertinent to the responsibilities of the position including reliability and ability to write clearly and concisely and to effectively and tactfully represent the Library.

General Description: Serves as investigator handling complex cases involving the security of Library materials and property and the retrieving of lost or stolen materials. Investigates complex cases of theft or mutilation of Library property and related problems. Interprets Library regulations and applicable City and State laws. Recommends methods of avoiding thefts and mutilations. Assists in preparing cases for hearings and court proceedings and testifies in such hearings as necessary. Performs related duties as requested.

To insure being considered for this vacancy, a staff member must apply to the Staff Relations Office, Room 113, within the time limits of the advertisement. Form 88b, available in all units, is designed for this purpose. Any application by telephone should be confirmed by submitting this form.

Closing date: April 27, 1973

Clare E. Rodgers,
Assistant Staff Relations Officer

McMASTER UNIVERSITY LIBRARY

THEFT AND VANDALISM ETC. MCMASTER

The following is a summary of our policies and procedures prepared for the I.U.B.P. meeting of May 27th, 1977.

REMOVAL OF MATERIAL AT EXIT POINT. (TATTLE TAPE)

1. McMaster Readers

   On the first occasion (whether carelessness or suspected theft) the reader is warned and the I.D. number noted. In cases of obvious theft the reader is interviewed by the Associate Librarian and a letter sent to the reader with a copy to the appropriate Dean.

   A second occasion would result in an interview and letter to the appropriate Dean.

2. Courtesy Readers (i.e. holders of a library courtesy card).

   On the first occasion the reader is interviewed, the card confiscated and both borrowing privileges and access to the library denied. A letter is sent confirming this with a copy to Security.

3. External Readers

   On the first occasion the reader is interviewed and access privileges denied. A letter is sent to the appropriate institution - Headmasters or Deans of other Universities.

   In cases of non-co-operation by any reader, Security is called.

THEFT

A large scale theft has just recently been prosecuted. For small scale theft, procedures are not very satisfactory. (An appeal to the students' self interest in stressing that missing books mean assignments not completed is considered to be having some success is some U.S. institutions).

MUTILATION

Deans informed. Class lecturer is informed about class material. Department chairman is informed about research material. Procedures are not very satisfactory.

FUTURE POLICY

A desire to tighten regulations in cases of theft and mutilation has recently been expressed by Library Committees, Librarians and Faculty. It has been suggested for future action that transcripts be marked. These matters are on the agenda of various university bodies for consideration in the Fall.

M. Maggs,
26th May, 1977.

POLICY STATEMENT
FOR
HILLMAN LIBRARY BOOK DETECTION SYSTEM

HANDLING APPREHENSIONS OF PATRONS WITH UNCHARGED OR MUTILATED LIBRARY MATERIALS

I. PROCEDURE

When the Book Detection System indicates uncharged library materials in the possession of a patron, a member of the Lending Desk staff will politely remind the patron that he may have inadvertently forgotten to charge out an item of library material.

A. If the patron acknowledges that this is the case, the staff member will simply request that the patron have the material charged out properly.

B. Should the patron indicate that he has no uncharged material, the staff member will then request that the patron try going through the gate once again, explaining that perhaps something else is causing the system to indicate the presence of uncharged material. If the gate releases on this try, the patron should be thanked for any inconvenience and allowed to proceed. We will assume this was a "false alarm."

C. Should the gate continue to close, it will be suggested that he must have something in his possession that he has forgotten to charge out which is setting the alarm off. The staff member will then ask permission of the patron to check any briefcases, notebooks, etc.; however, searches of clothing or individuals will not be made.

II. PROBLEMS

The staff must become skilled in questioning techniques and diplomacy in these situations so as not to antagonize or unjustly accuse a patron. In extreme cases, University Security may be called for assistance.

The Library staff will be especially concerned with cases of: obvious attempted theft or mutilation that are turned up; the patron who may break through the gate when the alarm goes off and is possibly caught by some circumstance; or the situation where a patron is stopped and during questioning concealed material is somehow found (such as a hidden book falling out of clothing). These are typical examples of potential difficult cases that might occur which this policy is to cover.

III. POLICY

A. University of Pittsburgh Students, Faculty and Staff

a. Students

Students who, after questioning, are found to have uncharged or mutilated materials in their possession, detected by the system, will be referred to the Campus Judicial Board for appropriate action. The patron and Hillman Library will follow the procedures in the Student Code of Conduct and Judicial Procedures. Charges will be made through the Student Accounting Office for replacement of the mutilated materials.

b. Faculty and Staff

If faculty or staff members are apprehended, the material in question will be taken from them and the possibility of the suspension of borrowing privileges will be considered by the Director of Libraries, unless the incident can be satisfactorily explained.

B. PRLC Faculty and Students

A member of a PRLC institution who is stopped and found to have uncharged or mutilated materials in his possession will be referred to the disciplinary board of his PRLC institution for appropriate action. Meanwhile, borrowing privileges at Hillman Library will be suspended.

In the case of mutilation, charges for replacement must be paid before borrowing privileges will be restored.

C. High School, Grade School, College Students and Faculty From non-PRLC Institutions

Persons in this category found with uncharged or mutilated library material in their possession will be referred to the administrative officer of the institution concerned and, if applicable, their Special Patron borrowing privileges will be suspended. They will be requested to pay for any mutilated materials.

D. Community-At-Large

Persons from the community-at-large found with uncharged or mutilated materials will be requested to pay the cost of any mutilated material on the spot, and will be referred to the Director's office for review and further action. If applicable, their Special Patron borrowing privileges will be suspended. In the case of flagrant violations or other difficulty, a University Security Officer may be summoned.

Approval - Senate Library Committee - 1/31/74

12/12/73

SECURITY PROCEDURES

1. If the alarm sounds, ask the person if he has any library materials he has not charged out.
   a. If he does, ask him to go to the Loan Desk and charge them out.
   b. If he says he has library materials that have been properly charged out, check the due date and ask him to return to the Loan Desk to the person who helped him and have the item(s) desensitized.
   c. If he says he doesn't have library material, follow the regular procedures as outlined in the attached security procedures.

*Note: UGL items will trigger the alarm. Items from the Reference Room, Maryland Room, etc. will still have to be checked.

PROCEDURES
BOOK DETECTION SYSTEM

University of Maryland Libraries
College Park, Maryland

When the Alarm Sounds

1. Remain poised, calm, confident and friendly. It is important to remember that not all alarms are a result of possible attempted theft.
2. Explain to the patron that the system is designed to respond to treated material. However, the system is sometimes activated by other material which contains similar elements.
3. Ask the patron to walk through the detection area again.
4. Should the alarm sound a second time, ask the patron if he has any objects in his/her possession that could set off the alarm.
5. Should you fail to determine the exact cause for the alarm, ask the patron for some identification. Make a note of this information in your log. Permit the patron to leave.
6. Should you develop reasons to believe that the patron has library material concealed on his/her person, grant the patron the opportunity to return these materials to the library. If it is obvious that the patron was attempting to steal material (i.e., he/she had material hidden under his/her clothing), ask the person to stay and call the Library Supervisor responsible for supervision of the book detection system. The Library Supervisor will fill out a Judicial Programs Office Student Conduct Referral Report. In the event the patron refuses to cooperate, ask for his/her identification. You may ask the person to stay but do not force him. Contact the Library Supervisor. The Supervisor will take the responsibility

of contacting the Police. Once the Police have been contacted, they are to be allowed to handle the situation from that point. The Police will ask the person to go through the exit again. If the alarm sounds and the person still states that he does not have any library materials, the Police will search him. If the Police find that the person does have uncharged library material in his possession, the person will be charged with an offense.

If the person is a student and only one item is involved, the Police will turn the case over to the Judiciary Committee. If the person is not a student or if a student with a number of library items, he will be arrested and charged with violation of the Maryland State Law for Protection of Libraries.

NOTE: It is not recommended that the library staff become involved in conducting extensive interviews of patrons who are suspected of attempting to remove material from the library.

7. Individual libraries may have more detailed procedures as warranted by their different work needs.

CONFIDENTIAL CONFIDENTIAL

JUDICIAL PROGRAMS OFFICE
Student Conduct Referral Report

TO: Judicial Programs Office
Room 2108A North Administration
CAMPUS

Social Security No. _____ Date of Birth _____

Student's Name _____ Class _____ College _____
Last First Middle

Campus or Local Address _____ Phone _____

Home Address _____ Phone _____

INCIDENT:

Nature of Misconduct _____

Date of Occurrence _____ Time _____ Place _____

Brief Description _____

_____

_____

_____

Name(s) of Witness(es), if any _____

_____

_____

Comments: _____

_____

_____

Submitted by _____ Title _____ Date _____

Soc. Sec. No. _____

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STEPS TO FOLLOW IN CASE OF AN OBSERVED READING ROOM CONCEALMENT OF MATERIAL

VIRGINIA

1. Be absolutely sure you have observed the person concealing material.

2. Immediately but discreetly get another staff member (preferably the Reading Room supervisor) who is in the room to act as a witness.

3. Call the University Police (4-7166 using Doug's phone). Identify yourself, the department, tell them you need assistance immediately in the Manuscripts Reading Room on the second floor of Alderman because of a suspected theft attempt.

4. Together with another staff member, confront the patron, tell him/her that you have a serious matter to discuss with them, and invite them to step to the staff end of the room. If the person will not, proceed quietly where you are. Say to the person something on the order of: "I have observed your concealing something under your shirt. I am sure that it was a mistake and that you will wish to assist us in clearing up this matter. I have called for the University Police to follow through on this. Will you please have a seat until they arrive."

5. Remain with the person until the police arrive. Be calm, courteous, do not argue. Do not use physical force to prevent his/her leaving. If he/she does so, warn him/her that the police will be looking for him/her, and that you will record his/her description immediately for the use of the police.

6. If the person does leave, the second staff member should follow him/her, and record the description of any automobile (including if at all possible the license plate number and state), and the description of any person(s) who may join the suspect.

7. The first staff member should immediately call for another staff member to cover the Reading Room, and he/she should sit down in a quiet corner and write down as accurate a description of the suspect as possible. Other staff members should leave this person alone so he/she may concentrate. Concentrate on such things as height (judged by your own), type of build, color (and length of) hair and eyes, any distinguishing marks. Clothes are important, but can be altered readily. More important are shoes, and outer coats if a cold or rainy day. Closing your eyes and visualizing the person may help.

8. Then write down exactly what you observed the suspect doing in the Reading Room, and any details about the person, what he/she said to you or other staff members, etc.

9. When the police arrive, give them the details of what happened, and your description of the suspect; answer all their questions as accurately as possible.